the OIL AND GAS JOURNAL

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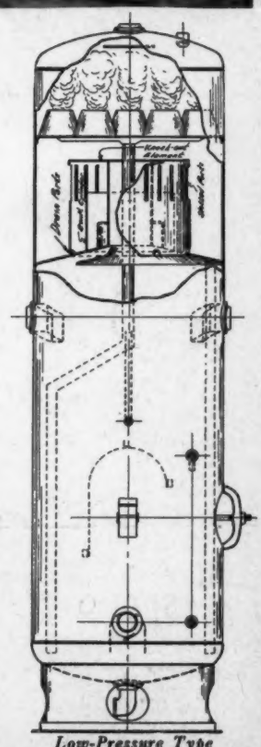

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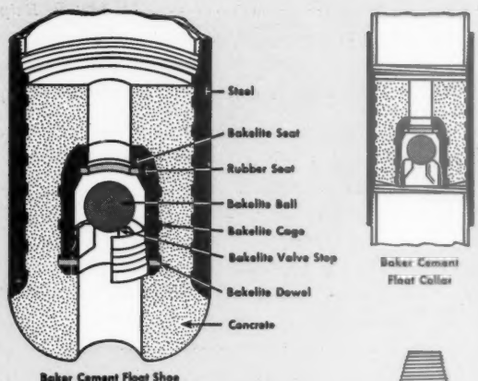
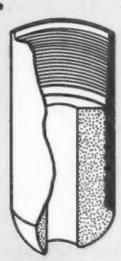
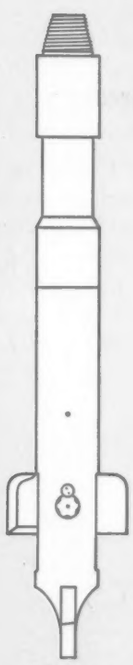


Baker Cement Float Shoe

Baker Cement Float Collar

Baker Cement Whirler Float Collar with Solid Bottom Baffle, with Metal "Petal" Basket


Baker Cement Guide Casing Shoe


Baker Rotary Wall Scraper

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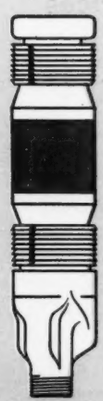
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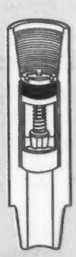
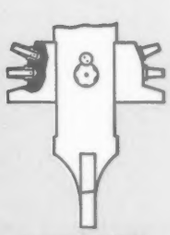

Baker Bakwik Model "B" Drill Pipe Float


Lower Section of Baker Rotary Wall Sampler

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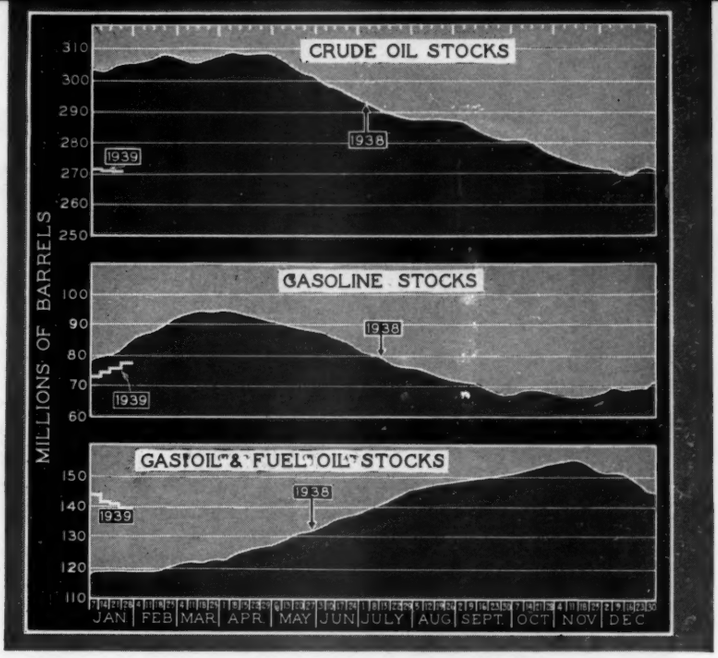
Trends

Reports Reveal Gains in Statistical Trends During First 31 Days



THE first month of the year closed on Tuesday with both the producing and refining branches of the industry able to point to some improvement in statistical conditions, although price trends for the 31-day period were, on the whole, unfavorable. January production in the United States was kept within the Bureau of Mines estimated demand, and for the first three weeks of the year crude stocks decreased 2,914,000 bbls. or 139,000 bbls. daily. These developments failed to bring any stiffening in general crude markets owing to the unhealthy situations that have developed at a few points. The steady increase in southern Illinois production without sufficient outlets at posted prices was the most important of these local conditions which are affecting adjoining areas. At the close of the month, that area still had the key position in determining crude price trends for the immediate future. A reduction in California production materially improved the statistical position of that state although further curtailment is needed over the next 30 or 60 days.

CRUDE PRODUCTION *3,251,779 barrels daily average—down 18,912. One year ago 3,356,726 barrels.*

CRUDE STOCKS *271,110,000 barrels as of January 21—down 709,000. One wear ago 304,424,000 barrels.*

GASOLINE STOCKS *77,279,000 barrels as of January 28—up 1,824,000. One year ago 85,013,000 barrels.*

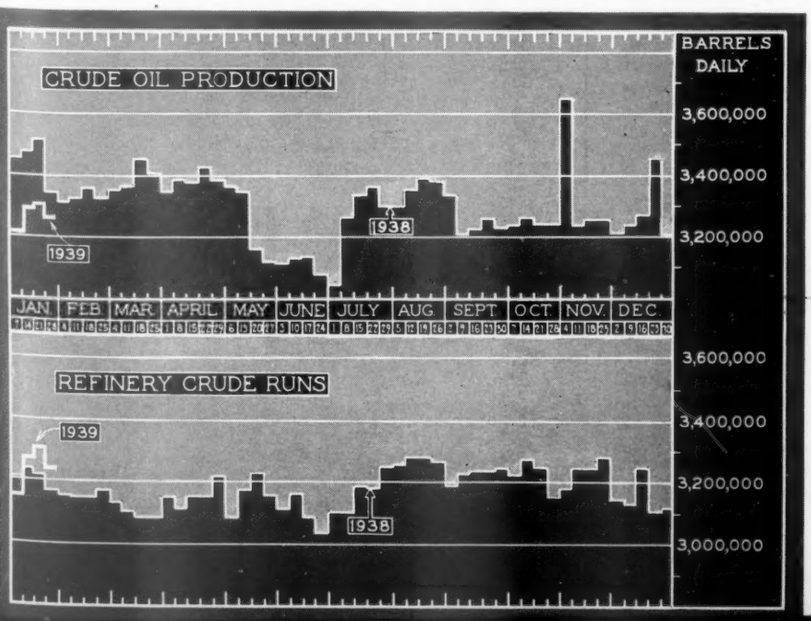
GAS AND FUEL OIL STOCKS *139,349,000 barrels as of January 28—down 1,742,000. One year ago 120,288,000 barrels.*

REFINERY RUNS *3,235,000 barrels daily week ending January 28—down 75,000. One year ago 3,158,000 barrels.*

The only price improvement reported for the month in either crude oil or refinery products was in Pennsylvania Grade oils, which have been brought within the current demand after a long period of excess output.

The Bureau of Mine's projected demand for February and the state allowables so far announced indicate that operations this month will be about the same as in January. Further expansion in Illinois output and increases in Louisiana might change this outlook before the end of the month.

From the statistical viewpoint, refinery developments in January were much more favorable than they were the first month of last year, although price levels are lower in all refining centers than they were then. Gasoline stocks increased 5,584,000 bbls. for the four weeks ending January 28. These stocks were 7,700,000 bbls. less than on the corresponding date of 1938. In January, last year, stocks of fuel oil and gas oil increased substantially. This year there was a seasonal decrease of 5,474,000 bbls. Stocks, however, are approximately 19,061,000 bbls. higher than they were a year ago.



DAILY AVERAGE PRODUCTION FOR WEEK

	Jan. 28, 1939	Bur. Mines est. of demand	Jan. state allowable	Jan. 21, 1939
Oklahoma City	99,875	.....	.....	103,525
Fitts	32,550	.....	.....	32,225
Remainder of state	298,450	.....	.....	291,175
Total Oklahoma	430,875	499,700	428,000	426,925
East Texas	372,498	.....	.....	372,198
West Texas	205,896	.....	.....	205,099
North Central Texas	109,047	.....	.....	109,650
Texas Panhandle	64,500	.....	.....	65,543
East Central Texas	91,000	.....	.....	91,298
Gulf Coast Texas	342,549	.....	.....	343,100
Southwest Texas	105,100	.....	.....	103,356
Total Texas	1,290,590	1,332,900	1,319,542	1,290,244
North Louisiana	71,890	.....	.....	69,020
Gulf Coast Louisiana	190,800	.....	.....	191,250
Total Louisiana	262,690	241,900	251,340	260,270
California	623,250	588,400	600,000	632,750
Kansas	148,575	153,900	153,900	155,200
Arkansas	51,850	49,000	.....	50,835
Eastern fields	92,300	92,900	.....	94,500
Illinois	134,522	86,100	.....	140,075
Michigan	50,147	47,400	.....	50,982
New Mexico	100,720	95,800	95,800	100,820
Rocky Mountain area	66,260	82,600	.....	68,090
Total United States	3,251,779	3,270,600	.....	3,270,691

In regard to February, economists are urging further reductions in crude runs to stills at refineries. They point out that it is the low month of the year in gasoline shipments and retail consumption, and they feel that while stocks are less than in either 1938 or 1937 at this time of the year, these inventories are excessive and the rate of seasonal increase should be reduced.

Currently, cold weather is boosting shipments of furnace oils at many points, but prices except for the East Coast area, reflect weakness rather than strength. The refinery gasoline market is steadier in the Mid-Continent, with export prices lower in California.

Pure Oil Co.'s new 22,000-bbl. combination unit at Smiths Bluff, Texas

New Processes Dominate

By H. STANLEY NORMAN

NEW YORK, Jan. 30.—A "boom" of major proportions appears in immediate prospect for the petroleum refining industry. The march to higher octane motor fuels is breaking into a double-quick step. Overall refinery production of 75- to 78-octane gasoline is certain to become the rule rather than the exception within two years. Competitive factors alone are sufficient to assure a sharp increase in refinery construction this year and in 1940.

While improved octane values for the gasoline to be produced is the major incentive for spending large sums of money, solvent refining and general modernization of equipment will be undertaken.

Estimates that the refining industry of the world will spend approximately $200,000,000 in 1939 appears to be based upon reasonably sound foundations, although economic factors, subject to change on comparatively short notice, will determine whether the figure is slightly over or under the mark.

Catalytic Cracking

The era of catalytic refining is here. Catalytic processes for accomplishing practically all previously known conversions of crude oil to products on a more efficient basis are in various stages of development. The vague implications of two years and even one year ago as to the potentialities of catalytic refining are rapidly emerging from the pilot plant stage and are being, almost as rapidly, extended or modified to meet commercial and economic requirements.

Therefore, behind the refinery construction prospects of the immediate future rests the broad field of catalytic treatment of hydrocarbons. The fact that three more catalytic cracking plants have been added to the list of seven now under construction was announced last week. The assured expenditures by the refining industry of the United States alone for catalytic cracking units in 1939 are now considerably above $45,000,000. This figure, imposing as it seems with barely a month of 1939 elapsed, is small when considered as covering only one phase of the refining industry's expenses.

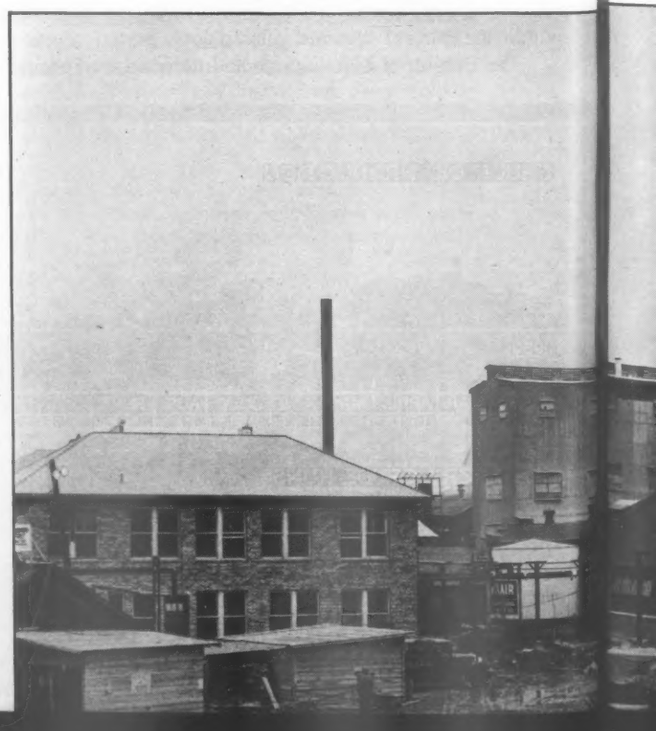
Opinions of those in daily contact with refinery construction prospects vary to some extent as to how rapidly the new processes for producing higher octane motor fuel will be adopted. A consensus indicates that a bulk of the 1939 construction work will develop during the last six months of the year. The logic behind this reasoning is apparent. Until they have had sufficient time to investigate all phases of the various catalytic and other new processes for improving motor fuel quality, refiners are expected to meet higher octane requirements in many instances with increased quantities of tetraethyl lead.

Catalytic cracking, catalytic reforming, gas reversion, and alkylation are only a few of the newer processing developments that will receive careful investigation before a definite program of design is adopted by the individual refinery. Optimum motor fuel quality is important, but in addition, the refiner considering any of the later processing developments will want to weigh the economics involved in his particular set of operating conditions.

The extent to which catalysis has taken root in the petroleum refining technique may be implied by the expenditure of more than $5,000,000 over a period of three years, the examination of 500 catalytic agents, and the current operation of more than 50 pilot-plants in various parts of the world, all by a group which is just now approaching the stage at which it will start to license use of its patents.

A catalytic cracking plant of 1,500 bbls. per day capacity and employing patents of this particular group will go on stream at Llandarcy, Wales, before the middle of February. It is the first commercial

Construction view of acetone-benzol solvent



Refinery Construction

scale unit designed and built by this group which represents an alignment of patents held by concerns owning approximately 30 per cent of the world's refining capacity.

Among the new methods for increasing the over-all gasoline octane rating, catalytic reforming of straightrun motor fuels appears to be extremely important. Tests show that approximately 85 per cent of straightrun gasoline can be improved to 85-octane rating through catalytic reforming. By sacrificing a few per cent in yield it is possible to make 90- or 91-octane gasoline by catalytic reforming methods thoroughly tested in laboratory and pilot-plant operations.

Gas Reversion

Selective condensation of cracked gases for continuous recycling in pyrolitic cracking and reforming operations covered by the broad term "gas reversion" is another recently developed method for enhancing the octane rating of over-all gasoline production. Gasoline of two to six or more points higher octane is being produced by this method and doubtless will find an economic position in the operation of many refineries. The gas reversion method in general involves continuous recycling of propanes and butanes in the cracking and reforming units, with gains in octane depending upon the nature of charging stocks.

Alkylation, involving a rebuilding of the molecular structure of the hydrocarbon, is attracting the time and attention of the industry's top ranking technicians. Limited reports of this type of work have appeared in recent literature. S. F. Birch, A. E. Dunstan, F. A. Fidler, F. B. Pim, and T. Tait of the Anglo-Iranian Oil Co., Ltd., research department reported on certain phases of their investigations in The Oil and Gas Journal, June 23, 1938.

The pioneer work in catalysis as applied to petroleum refining reported by Ipatieff, Egloff, Grosse, and others of the Universal Oil Products Co. is well known. Economics and the demand for isooctane are factors which will determine the immediate adoption of alkylation methods in general refinery practice. As the demand increases for 100-octane aviation gasoline, methods of producing isooctane by alkylation will grow nearer adoption.

The foregoing deals briefly with some of the later processing developments which the petroleum refining industry appears certain to adopt in the natural progress of producing quality motor fuels. Since 67-octane has become practically standard for third-grade motor fuel the industry is forced to seek economically sound methods of maintaining a quality differential between third-grade, regular and premium grade gasolines. Of the two methods open to refiners in meeting competitive octane conditions, the addition of facilities to increase recovery of higher quality products seems to have economic advantages over the purchase of greater quantities of lead, when considered from a projected viewpoint.

Announcement of three new Universal Oil Products Co. catalytic cracking units late last month by Consolidated Oil Corp., Shell Union Oil Co., and Texas Co. in addition to the eight Houdry units under construction by Socony-Vacuum Oil Co. and Sun Oil Co., indicates the 1939 refinery construction trend. In addition there are several refiners considering the catalytic processes to become available to licensees soon representing the combined research efforts and patent structure of Standard Oil Co. of New Jersey, Standard Oil Co. of Indiana, Anglo-Iranian Oil Co., M. W. Kellogg Co., and the I.G. chemical group of Germany.

In the present state of development, catalytic cracking has limitations on the type of charging stock which can be used to economic advantage.

In addition to the construction indicated by the new catalytic processes and gas reversion, polymerization still occupies a definite picture in the balanced refining system. Prospects are that more of the midget poly plants will be constructed this year which have aided the small plant operator in producing motor fuel meeting competitive specifications. The solvent refining and dewaxing refining potentialities have not been completely satisfied and there is prospect that several new plants will be added this year, although the volume probably will not compare favorably with the past two or three years.

Includes Maintenance

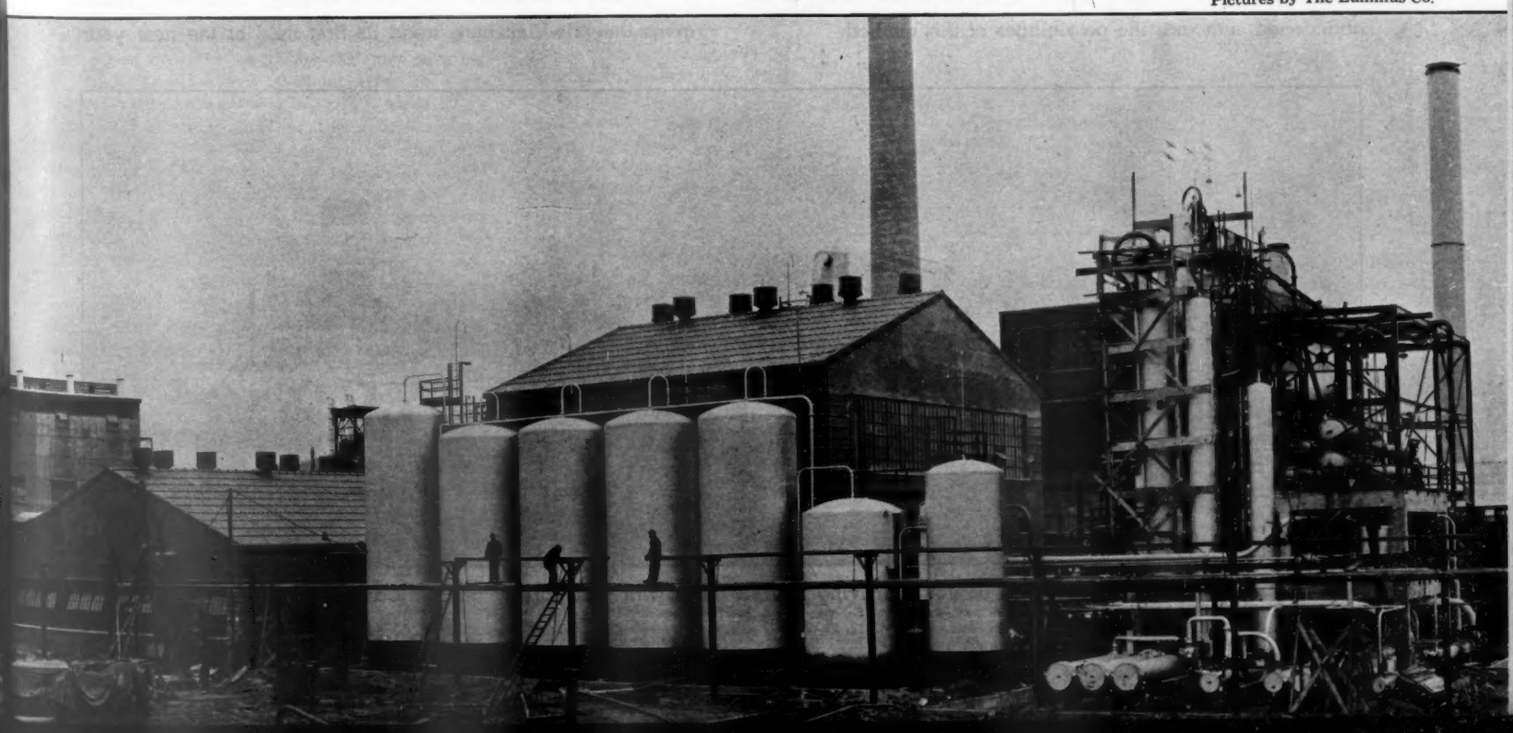
From the estimate of $200,000,000 to be spent by the world's refining industry in 1939 it appears probable that 70 to 75 per cent of the work will be in the United States, with the remainder distributed to Europe, Asia, the Netherlands East and West Indies, and South America, with emphasis on the latter territory where several companies plan major expenditures.

Replacement of obsolete and deteriorated distillation and cracking equipment is expected to follow normal trends during 1939, but this type of construction has always formed the "backlog" for engineering concerns which can gauge the extent of these requirements with reasonable accuracy from year to year. Normal replacements are included in the estimate of 1939 expenditures.

While the production of high-octane motor fuels has been the principal justification for installing special types of cracking units, polymerization plants and for the investigation of alkylation, cyclization and isomerization this has not been the ultimate objective of the work. The program of general chemical research is based upon the knowledge that better hydrocarbons may be produced to do certain work than are naturally contained in crude oil. In time, it is the objective of researchers to prepare and segregate single or a simple family of hydrocarbons that will be more effective in specific uses. While the cost of manufacture may be relatively high for each the greater efficiency will justify its production. This of course applies mainly to motor fuels, lubricants, and specialties.

dewaxing plant which was placed on stream last week by Sinclair Refining Co. at Wellsville, N. Y.

Pictures by The Lummus Co.



SPARKS FROM THE NEWS

DIESEL WELLS

Operators have found good Diesel fuel oil at 250 feet in a pool near Fredonia, Kans. Their next job is to find a suitable market

NO SURPRISE

The fact that net gasoline prices are 33 per cent lower than they were 15 years ago comes as a surprise to many but not to the Mid-Continent refiner with several cars to dispose of daily.

SIZABLE CONTRIBUTION

A 200 million dollar construction program covering new units and modernization programs will be the refining industry's contribution to prosperity this year.

NO SALE

A refiner wants to know what to do with stored products which collectively will not bring the price of the crude. He might mix them together and tender them back to the pipe line as crude.

INCREASING RECOVERY

A recovery of 750 bbls. per acre through water-flooding, with more to come, on a lease in North Texas about to be abandoned, indicates the possibilities of this method.

BOOM MINUS WELL

Although it still lacks a drilling well, Missouri has hotels crowded with oil men along with other evidences of a boom.

TAXES FIRM

Retail gasoline prices at many points reflect reduced margins for refiner, jobber and retailer. Tax margins are unchanged.

WEATHER-PROOF

Recent developments in Illinois indicate that low temperatures and snows can stop practically everything except an operator bent on drilling a hole.

NO SHORTAGE

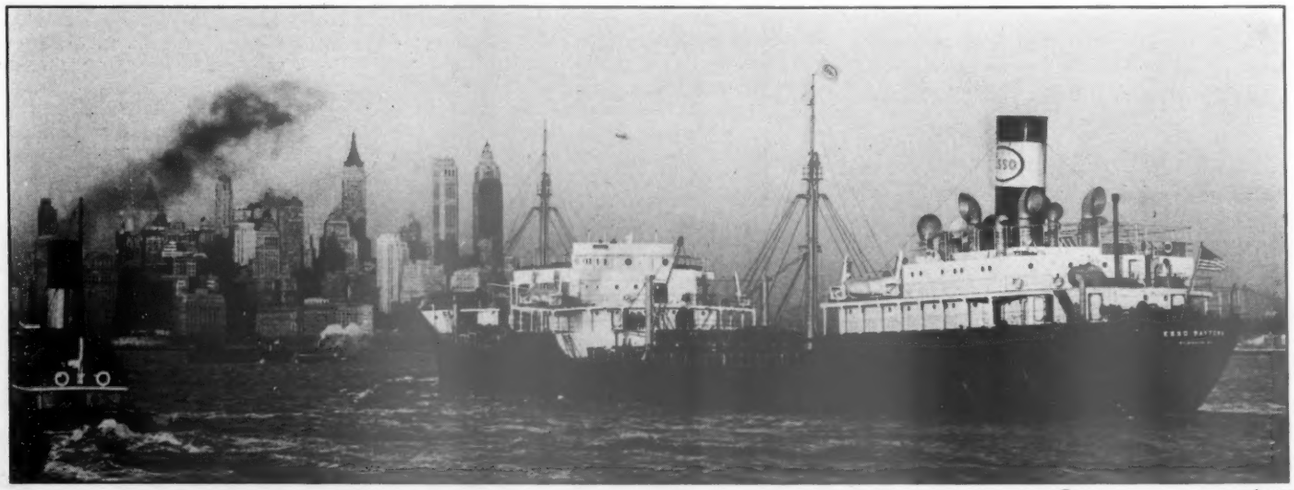
A major gas company is using old car bodies to protect its line from wind erosion. It need never fear a shortage of working material.

REASONS

In the closing of a Chicago refinery there probably are facts which have to do with gasoline pipe lines, labor conditions and a changed marketing situation.

MORE FRIO-VICKSBURG

A test in southern Jim Wells County, Southwest Texas, gives the Frio-Vicksburg trend its first field of the new year.



Acme

Tanker Esso Baytown arriving in New York with survivors of airliner Cavalier

History Being Repeated in Illinois Developments

By L. G. E. BIGNELL

Are Illinois operators repeating past history in the development of their new oil fields? Historians say they are.

It is feared this comparison will continue to the end that the active development of new discoveries will be shortened and ultimate recoveries reduced unless present-day operators change their practices.

Those who have made comparisons with progress in the new fields over the past two years and the same period in the old fields say the two periods are closely parallel in many respects. In the old fields owners of large tracts endeavored to bring about an orderly development in line with the best accepted practices of that time. But there were no restrictions on drilling on small tracts and many wells were drilled on an acre or less.

This in turn forced the rapid drilling of the larger leases and an active exploratory campaign got under way in a short time, without regard to the available markets for the crude or the physical waste involved. While conditions in the 1906-1912 period were favorable for an advancing market, due to increased demand for petroleum products in that section of the Middle West, the trend in posted prices was downward while the production was climbing rapidly and considerable quantities were sold under the market. It was not until the production of the fields started to decline due to the wasteful operation practices that prices advanced.

While operating methods in practically all the states have greatly changed since the days of the old Illinois development, due to conservation regulations, it is pointed out by these historians that drilling and production practices in several pools of the new area are practically the same as those in effect 30 years ago. Without effective state regulation wells have been drilled on small tracts and produced as rapidly as they will flow and markets are available. The market has been flooded and as in the case of the old fields, posted prices have been reduced and approximately 40,000 bbls. daily are now selling 10 or more cents under the posted prices. It is feared that this low price will bring additional reductions in prices.

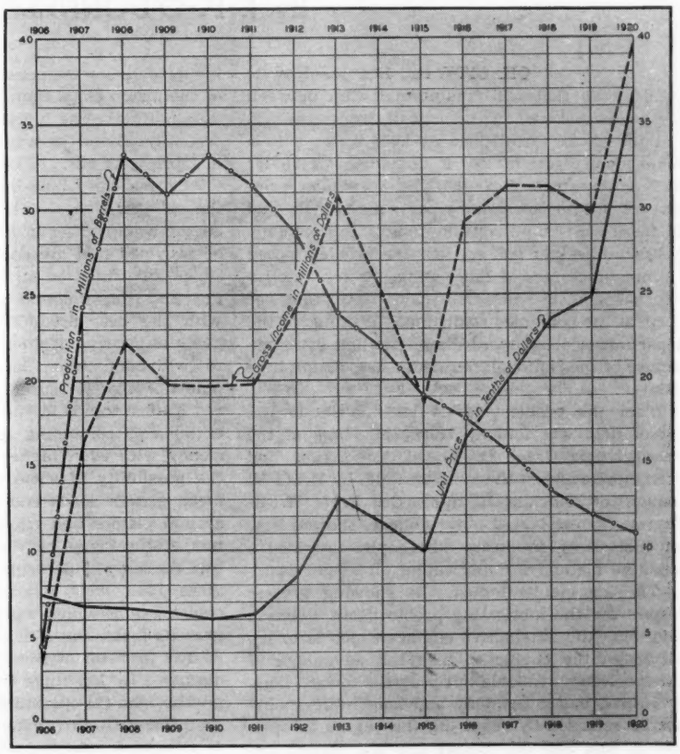
The accompanying table and chart reviews the conditions in Illinois between 1906 and 1920. During the first six years of that period the fields in southeastern Illinois along the La Salle anticline were developed. The peak of drilling activity was in 1907, followed by the peak of production in 1908. While the drilling rate decreased gradually over the next five years, the rate of production still remained above 30,000,000 bbls. per year and prices did not increase until 1911. During 1909, 1910 and 1911 the volume of oil produced fluctuated above 30,000,000 bbls. per year, but the gross income remained practically the same. After 1911 the volume of oil produced gradually declined but the price increased, and in 1920 the operators received nearly twice as much money for one-third as much oil as they produced during the peak production years.

The fallacy of this "oil boom" period is clearly shown by the chart because the wells had been depleted and were down to small strippers when the price of oil was highest. If the operators had conserved this commodity during the period following the discovery of the new fields, and had not been so anxious to "cash in," they could have got the higher price and have had more oil to sell. They would have gained in ultimate production as well, and the gross revenue from those old fields would have been much higher.

Reports show the effect this boom had upon the communities near the field. It stimulated business activity unduly and many capital investments were made that were never repaid. It was a case of securing money invested in a very short period or losing a portion.

It is pointed out by many operators who have been in close touch with Illinois fields over the past 30 years that operating procedure in several of the new fields is not in keeping with modern methods. By taking cores of the producing formations and making analyses in laboratories, it is possible to predict very closely the volume of oil that can be recovered from any field. It is also possible to determine well-spacing to secure this ultimate volume of oil. Further study of formation pressures and natural gas in the reservoir along with the oil, either as free gas or in solution in the oil, gives data on rate of production. Every field has some natural rate at which the oil can be produced if ultimate recovery is to be attained. If this natural production rate is not followed some of the energy stored with the oil will be dissipated. This results in lower ultimate recovery and also necessitates the use of mechanical means for producing the oil at an earlier period in the life of the field. In other words, it costs more to recover the oil that remains after the natural energy has been dissipated than it would cost if natural conditions had been taken into account. Rapid drilling of wells is unnecessary and costly. It means a reduction in gross profit and also will result in less money being spent for commodities other than oil-field equipment.

Referring to the oil situation in Illinois one observer says: "Oil booms tend to create uncertainties in the crude oil prices; cause unnecessary drilling; speed up development and production which results in short periods of employment for the workers; dissipate natural energy in the reservoirs and thereby decrease ultimate recovery of oil and at the same time increase the production costs so that gross profits are reduced. Effect upon the industry is bad and for operators net results are by no means as profitable as they would have been if the rate of production had been decreased and recovery time lengthened so that prices would be higher and gross returns more."


1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920
Production in Millions of Barrels
Gross Income in Millions of Dollars
Unit Price in Tenths of Dollars

Unit prices, production and gross income of Illinois fields 1906-1920 shown graphically

ILLINOIS PRODUCTION—1906 TO 1920, INCLUSIVE

Year—	Oil completions	Wells total	Production per well	Production (bbls.)	Unit price	Total income
1906	2,793	3,355	3.6	4,397,000	.74	$3,275,000
1907	4,260	7,313	9.1	24,282,000	.68	16,433,000
1908	3,019	9,500	9.7	33,686,000	.67	22,649,000
1909	2,593	11,152	7.6	30,898,000	.64	19,789,000
1910	1,681	12,171	7.5	33,143,000	.59	19,669,000
1911	1,061	12,753	6.7	31,317,000	.63	19,734,000
1912	980	13,222	5.9	28,601,000	.85	24,333,000
1913	1,363	14,100	4.6	23,894,000	1.30	30,972,000
1914	1,191	14,800	4.3	21,920,000	1.16	25,426,000
1915	539	15,180	3.4	19,042,000	.98	18,656,000
1916	1,107	15,838	3.1	17,714,000	1.65	29,237,000
1917	488	16,046	2.7	15,777,000	1.99	31,358,000
1918	279	16,004	2.3	13,366,000	2.34	31,230,000
1919	254	16,201	2.0	11,960,000	2.48	29,720,000
1920	257	16,800	1.8	10,774,000	3.67	39,583,000

Speakers' table at N.P.A. meeting, Oil City, Pa.: Max M. Roensch, Chrysler Corp.; George H. Keller and H. A. Everett, Pennsylvania State College; Joseph E. Keller, National Petroleum Association; Joseph E. Moorhead, Pennsylvania Grade Crude Oil Association; Dr. C. M. Larson, Sinclair Refining Co.; Harry M. Rugg, Pennsylvania Grade Crude Oil Association, and A. W. Scott, Wolverine-Empire Refining Co.

Lubrication Problems Analyzed at Oil City

By J. P. O'DONNELL

OIL CITY, Pa., Jan. 30.—How to build an oil that will "maintain a film between the rings and the cylinder wall from —40° F. and full choke to full load at 4,000 r.p.m. with a sump temperature of 250° F. or higher, a cylinder wall temperature of 300-400° F., a cylinder pressure of 400 to 500 pounds per square inch, and all these with an oil consumption of approximately 2,000 miles per gallon," was the problem posed for manufacturers of lubricating oils for automotive demand by Max M. Roensch of Chrysler Corp. at the combined semiannual meetings of the departments of standards and tests and of manufacture of the National Petroleum Association here today.

That the problem is no less severe in the Diesel field was told by Harry M. Rugg of the Pennsylvania Grade Crude Oil Association, and even more acute in the aviation field, by Dr. C. M. Larson of Sinclair Refining Co. Prof. H. A. Everett, Pennsylvania State College, showed how an analysis of crankcase oil samples provided a sensitive method for lubricating oil diagnosis.

The automobile industry is showing greater respect for the lubricating problem, Mr. Roensch said, but "the automotive engineers' job is to try to design the engine to take full advantage of the lubricants available but progress toward higher output, better economy and longer life should not be retarded by requiring the engine to operate on just any oil. Better oils are needed and I am sure the oil industry will keep pace." As evidence of manufacturers' appreciation of this problem he pointed to efforts to provide better finishing and to maintain more even oil temperatures within a reasonable operating range, the use of piston-ring coatings for break-in periods and the increasingly widespread use of automatic transmission with its lower engine speeds and higher car speeds.

Much of Mr. Roensch's talk was devoted to trends in automotive design. He referred to the steady increase in output per cubic inch, citing the nearly 50 per cent increase in compression ratio in 15 years and the nearly 80 per cent increase in horsepower per cubic inch, and 1939 continues this trend. "This higher output means higher cylinder temperatures and higher pressure of the piston rings against the cylinder wall. This does not make the lubrication problem easier and certainly points the way for future developments in lubricating oils. . . .

"To put the whole burden of this problem on the oil men is not quite fair and the life of the engine would suffer if one did so. Cylinders must be provided that are cooled as uniformly as possible—they must be straight and round, and pistons and rings must do their part. However, even with the best production technique, there are going to be irregularities and the oil must be able to withstand some localized temperature and points of high pressure. . . .

"Future trends in engines will be toward higher b.m.e.p., combining improved volumetric efficiency with even higher compression ratios and the possibility of some supercharging. This will mean greater loads and temperatures on the oil around pistons and rings even though the sump temperature may be the same. Improved gasoline economy will result with higher output engines used with automatic and semiautomatic transmissions which will allow the car to operate near its maximum efficiency."

The problem of Diesel engine lubrication was discussed by Mr. Rugg from four angles: (1) Engine design; (2) operating conditions; (3) fuel and its influence, and (4) lubricating oils.

Designs in which the burning fuel is not forcefully impinged directly upon the head or body of the piston offer much less trouble with lubrication, he said. Since "indications are that the temperature of the piston is the most obvious factor accounting for the gumming of lubricating oil." Mr. Rugg devoted much discussion to this feature. He favored the solid type piston head, a large number of rings and increased width of the top land of the piston to increase contact with the cylinder wall and thereby pass more heat to the cooling system. Designs in which a stream of oil plays on the under side of the piston head, or which have oil passing lengthwise through the connecting-rod, also reduce heat, forced cooling reducing piston temperatures from 60° to 80°. Low sump temperatures were advocated, since lowering the crankcase temperatures 80° has effected a drop of as much as 20° in piston temperatures, a change that may mean the difference between sticking and nonsticking conditions.

Mr. Rugg said the engine design and operating conditions are more important than the fuel itself in achieving complete burning. He urged cleaner fuels, since if impurities enter the combustion chamber, they will also reach the cylinder wall and piston and form ring-sticking material.

Mr. Rugg said that both straight mineral and compounded oils are working satisfactorily in Diesels. Both needed to be free from contaminating matter caused by unburned fuel, nonpetroleum mineral matter such as iron caused by wear and water. While Diesel carboning is heavy, he dismissed it as unimportant since it is sooty, settles out easily, and apparently does not lead to acute lubricating troubles.

Determination of the iron content of oil samples taken from the crankcase as a method of lubrication diagnosis was described by Professor Everett of the mechanical engineering department of the Pennsylvania State College where this method is in use.

Four automotive engines, as nearly identical as possible, handled similarly and operated at the same speed, are used for testing. Runs are made alternately on test and the same proportions of reference oils are used in each engine. The engines operate dry sump and the oil is recirculated to the engine. The 10-gram samples are taken off from a petcock. With the sensitivity of the method proved by these engines, a battery of six smaller, single-cylinder engines is now in use.

It was apparent tests could be made either at the conclusion of long runs or more frequently if extremely sensitive instruments were used. The latter course was adopted and instruments sensitive to changes of one part in millions are employed. The sensitivity is proven by the fact it can pick up the iron increment in the equivalent of 10 miles of operation. Reports are made on a percentage basis. The quantity of contaminant in the oil sample is multiplied by the ratio of the sample to the quantity of oil in use to arrive at the total wear.

Although near-zero weather prevailed, 110 refinery technologists attended the meeting arranged by Russell R. Buckham of James B. Berry Sons Co., Inc., and Joseph E. Keller of the National Petroleum Association. Mr. Keller presided at the afternoon session and J. E. Moorhead, executive secretary of the Pennsylvania Grade Crude Oil Association, during the evening.

Find Diesel Fuel Oil in Sands at 250 Feet in Stryker Pool

By DAL DALRYMPLE

One day last week, soon after 25 quarts of glycerin had been lowered into a 270-foot hole, there was an explosion, a stream of oil, gas and water spurted over a drilling rig and the eleventh oil well in the new Stryker pool, near Fredonia in Wilson County, Kansas, had been shot into production.

Nearly 45 years ago a similar scene was enacted a few miles to the southeast in Wilson County, near Neodesha. Guffey & Galey, pioneer operators of Pittsburgh, Pa., began prospecting for oil and gas in Wilson County in 1893. They were successful and piped gas into Neodesha and first lighted it on the evening of July 4, 1894, in connection with the celebrations of that day. Earlier in the day they "shot" an oil well near the town, the first event of its kind in Kansas. That well is recognized as the first commercial producer in the state, although oil had been found several years previously near Paola, in Miami County.

Subsequently, exploration spread over much of Wilson County, and numerous oil and gas pools were discovered. Every township in the county has produced oil or gas at one time or another. Altoona, Buffalo, Fredonia, Neodesha and Vilas are Wilson County communities that have been largely surrounded by oil and gas fields.

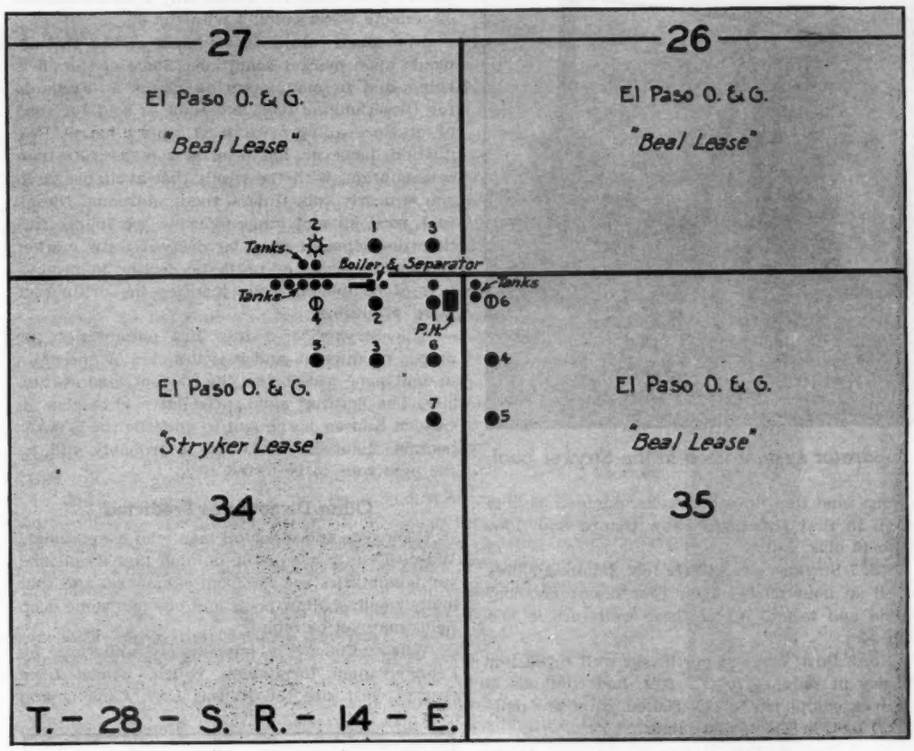
Production declined, and the play waned. Many operators decided the possibilities of Wilson County had been exhausted, and they went on into newer fields farther west in Kansas, in Oklahoma and elsewhere.

Some of the faithful, however, believed that more productive spots in the county awaited the finding. They continued the search and, from time to time they would open a small area or extend some of the older pools.

Discovery at Altoona

This desultory drilling continued over a span of years until about four years ago, when new production of considerable importance was uncovered in the Altoona district in the eastern part of the county. The Altoona strike was one of several made in the old eastern Kansas fields in recent years, resulting in a considerable revival of activity in Wilson, Neosho, Elk, Chautauqua, Montgomery and other eastern counties.

W. L. Stryker, Fredonia geologist, was among those who believed in Wilson County. A resident of the county for many years, he had studied its geology, mapped structures, outlined formations. Some years ago he wrote a paper on "Subsurface Geology of Wilson County" for the American Association of Petroleum Geologists. He believed the county had undeveloped oil and gas possibilities, and said so. Yet he was a geologist, not an operator, and did nothing about it.



The Stryker pool, near Fredonia, Kans., producing from sand at 250-80 feet

That is, he did nothing about it until March, 1937. Then, during a temporary lull in his work, he recalled having discovered a high, sharp, almost circular dome on the northwest edge of the Fredonia structure some years earlier. This was on a portion of the Stryker estate, about 3 miles northwest of the city of Fredonia. It had not been adequately tested, although several wells had been drilled in the general vicinity and oil and gas pools had been opened nearby, in every direction. He decided to give it a test and in association with his brother, M. B. Stryker, drilled the No. 1 Stryker, Section 34-28-14, in the spring of 1937, and opened a new field in Wilson County.

The discovery well found the pay at 248 feet in a sand in top of the Kansas City series and was bottomed at 277 feet in sand. After a shot, it pumped at the rate of 15 bbls. of oil in 24 hours.

Soon after completion of that well, the Stryker Brothers drilled No. 1 Beal, in Section 27-18-14, completing it for initial yield of 26 bbls. of oil daily, production later settling to 20 bbls. It found the pay sand at 254 feet, 2 feet higher structurally than in the discovery well, surface elevation accounting for the difference in footage.

Colorado Operators Begin Work

No additional wells were drilled in 1937. In the summer of 1938 the Stryker Brothers made a deal with W. L. Raney, Dr. C. O. Giese and W. L. Fitzgerald, of Colorado Springs, Colo., operating as the El Paso Oil & Gas Co., for the development of the pool. Mr. Raney, general manager of the El Paso company, moved to Fredonia, engaged John Denman, Jr., of Sedan as drilling contractor, and began operations in July, 1938. Since then the following wells have been drilled:

No. 2 Stryker, had pay at 248-275 feet, flows 15 bbls. of oil daily by heads.

No. 3 Stryker, pay 255-277 feet, 10 bbls.

(Continued on Next Page)

Tanks filled with Diesel fuel oil from the Stryker pool in Wilson County, Kansas; band-power pump house at extreme right

. No. 4 Stryker, junked hole; may be cleaned out and completed.

No. 5 Stryker, pay 258-276 feet, 10 bbls.

No. 6 Stryker, pay 256-278 feet, softer and more

Separator system used in the Stryker pool

porous sand than in other wells, pumped 35 bbls. of oil in first five hours, now pumps and flows 30 to 40 bbls. daily.

No. 7 Stryker, pay 247-272 feet, pumped 7 bbls. of oil an hour on beam for four hours, not completed and tested. All of these wells are in Section 34.

No. 2 Beal, farthest northwest well in Section 27, dry in sand at 250-277 feet, had first gas at 308 feet, completed for 250,000 cu. ft. of gas daily at 327 feet, in Kansas City lime.

No. 3 Beal, Section 27, pay 267-294 feet, drilled into gas zone, plugged back to oil pay, pumped 5 to 8 bbls. of oil an hour and was shut in for connections.

Two 50-Bbl. Producers

No. 4 Beal, Section 35, topped sand at 255 feet, had oil pay at 263-285 feet; and No. 5 Beal, the farthest southeast producer, had pay at 259-282 feet. These wells were hooked up together, pumped 60 bbls. of oil in 10 hours on joint test and were estimated good for 50 bbls. daily, each.

No. 6 Beal, Section 35, was at completion stage but had not been tested. Practically all wells produce gas with the oil.

The limits of the pool have not been defined, but operators estimate the productive area will cover about 160 to 180 acres on the dome. A well drilled three-fourths mile west of production last July found the Kansas City zone 65 feet lower structurally than wells in the pool and, although it had a showing of oil and was shot, efforts to make a producer were unsuccessful. The pool is wide open to the south and east.

The wells in the pool are spaced 320 feet apart. They are drilled with Star 45 machines, with drilling time averaging three eight-hour days. Two days are required to rig up and two days to clean out. The wells are shot with 25 quarts. Casing usually is set at 240 or 241 feet.

Cost of a well on the beam, including two days cleaning out and shooting, averages $300, with the operators furnishing tubing and casing.

The oil is pumped from the wells into a gunbarrel separator; thence to receiving tank, from which it flows by gravity to a Brown boiler, located 10 feet lower on a hillside. It also flows by gravity from the boiler to storage tanks, another 14 feet lower on the hill. A 16-foot band power is used, with a 12-hp. engine. The power is capable of pumping 50 wells. Electricity is provided by a 110-volt generator.

Used for Diesel Fuel

The oil is low gravity, testing 24 degrees, but it is a good Diesel fuel as it comes from the well. It contains no hard asphalt, has only .19 per cent sulfur, and pours at below zero. The pay sand carries practically no water, only a small amount of connate water coming with the oil.

Immediate future development of the pool depends upon market conditions. Some of the oil is being sold to manufacturing plants at Fredonia for Diesel engine fuel, and some is sold for road oil at a prevailing price of 95 cents a barrel. Production, however, has been at a faster rate than consumption, with the result that available tankage is nearly full. Unless, then, additional Diesel, fuel, road oil and other markets are found, further development may be delayed until market demand increases or until the decline in production of completed wells justifies the drilling of more producers.

The Stryker area also has possibilities for deeper production, and it is the plan of operators to drill some tests below the 250-foot sand eventually. The Squirrel sand, productive elsewhere in eastern Kansas, is thought to underlie the Stryker pool at about 800 feet, and it probably will be the next zone to be tested.

Other Discoveries Predicted

Geologists and other oil men who have studied Wilson County are of the opinion that its oil and gas possibilities are far from exhausted, and that many small, shallow pools and possibly some deep fields may yet be found.

Wilson County is immediately underlain by Pennsylvanian formations, which, named from east to west, are the Kansas City, Lansing and

Walter L. Raney, El Paso Oil & Gas Co., Colorado Springs, Colo.; William L. Stryker, geologist, Fredonia, Kans.

Douglas, according to W. L. Stryker. In common with other counties of southeastern Kansas the structure is that of the east limb of the great syncline whose axis crosses Central Kansas. The westerly dip approximates 25 feet per mile, but there is considerable range in degree and direction of inclination. In many places the dips are reversed and there are many low domes, anticlines, noses, etc. Many of these appear to be related to irregularities of deposition and topographic unevenness of the surface of the Mississippian. The most decided structural feature in the surface strata of the county is a dome lying 3 to 4 miles east of Fredonia, and known as the Fredonia anticline, or dome. This anticline has a northwest-southeast trend and is several miles long. The Stryker pool is located on a local, outlying dome on this Fredonia uplift.

Obituaries

JOSEPH S. HURLEY, 40, Warren, Ark., operator, died in Chicago January 29.

JOHN HANCOCK, 54, vice president and general counsel of Texas Pacific Coal & Oil Co., died in Fort Worth, Tex., last week. He had been with the company since 1919.

FRED S. GLEASON, 45, superintendent of operations in the gasoline department of Phillips Petroleum Co., Bartlesville, Okla., died January 25. He was a native of St. Marys, Ohio, and removed to Tulsa from North Dakota in 1910 to work for Texas Co. and later the Wolverine Oil Co. He joined the Phillips company in 1919 at Ranger, Tex.

CLARENCE NEWTON SCOTT, 70, Houston, Tex., retired vice president of Texas Co., died last week. He was born in Quebec. In 1890 he entered the employ of the Snow Steam Pump Works in Buffalo, organized by Standard Oil interests. Two years later he became its chief engineer and held that position for 18 years. In 1910 he joined Texas Co. as chief consulting engineer, and in 1917 was made vice president and manager of its producing department. He resigned in 1922.

FRANK NASH BULLOCK, 82, who discovered the West Columbia (Tex.) oil field, died January 25 at Houston. He was secretary and treasurer of West Columbia Oil Co. and vice president of Eagle Petroleum Co. In 1919 he was associated with the Gulf Dime Oil Co., operating at Barbers Hill.

CHARLES F. HUFF, 56, vice president since 1934 of four subsidiaries of Columbia Oil & Gasoline Corp., died January 30 at Columbus, Ohio. He was born in Oil City, Pa., March 5, 1882, and when 15 began work in the engineering department of South Penn Oil Co., remaining 12 years. He subsequently served as superintendent for United Natural Gas Co., Clarion Gas Co., Pennsylvania Natural Gas Co., Preston Oil Co. and general superintendent of Columbia Oil & Gasoline Corp.

RAYMOND W. EVEREST, 60, former director of Vacuum Oil Co., which was founded by his grandfather, Hiram B. Everest, died January 26 in Plainfield, N. J. He was a native of Rochester, N. Y.; son of Charles M. Everest, for many years president of Vacuum company. He joined the company in 1899, working in the refinery in Olean, N. Y., then in the office in Rochester, and later with the marketing organization in Australia and in refineries in Europe. He was made director in 1912, in charge of manufacturing, until retirement in 1929.

Attitude on Mexican Oil Causes Criticism

By HENRY D. RALPH

WASHINGTON, D. C., Jan. 30.—Two resolutions just introduced in Congress indicate that the legislative branch may force a showdown on Mexican relations with this Government in the near future.

The resolutions call for the creation of a special committee to investigate confiscation of American oil and other property by the Mexican Government and other aspects of Mexican policy which affect the United States. One resolution is sponsored by Senator Robert R. Reynolds of North Carolina and the other by Representative Martin J. Kennedy of New York, both Democrats. While the resolutions are differently worded, their purpose is the same, an investigation of conditions and a report to Congress suggesting the policy which should be adopted by this Government.

Neither resolution may be adopted or even brought up for hearings since the State Department would probably ask that no such investigation be made as long as diplomatic relations are maintained with Mexico, but these resolutions undoubtedly reflect the sentiment of sizable elements in Congress and the fact that they are pending can be counted on to spur the State Department to greater efforts to bring about a settlement of the controversy arising from Mexico's expropriation of American and other foreign oil properties nearly a year ago.

The Kennedy resolution branded Mexico's connections with Germany as "not alone a violation of elementary principles of international law, good will and good faith . . . but in addition . . . a flagrant violation of the Monroe Doctrine."

Silver Purchases

The resolution asserted that the course pursued by the United States Government in connection with Mexican policy "has brought the United States into contempt in our neighboring republic and throughout the whole of Latin America," because the American Government is subsidizing "Mexico's anti-American program" through the purchase of silver and by other means.

In support of the proposed investigation, Representative Kennedy pointed out it would not only reveal the details of the German barter deals with Mexico, but disclose as well the truth of persistent reports that the Mexican Government is endeavoring to sell for cash to other Latin American countries German materials to be obtained in exchange for oil. In order to make this proposition attractive, Mexico, it is said, is offering the manufactured goods at under-the-market prices. While no definite arrangements have been reported, it is understood that Chile, Peru and Uruguay have expressed a willingness to trade and promised to furnish a list of materials in which they are interested to enable Mexico to make quotations.

The resolution then calls for the creation of a special committee of seven members of the House, with an appropriation of $30,000, "to institute and carry out such an investigation as will reveal a comprehensive and trustworthy exposition of conditions in and relating to Mexico as they adversely affect the Monroe Doctrine, the rights of Americans in Mexico, and the proper relationship which should always exist between the United States and our sister republics."

Senator Reynolds lists a somewhat different set of "whereases" and includes reference to Mexican relations with Russia and Japan. His resolution calls for the creation of a special senate committee to make an exposition of conditions referred to in the preamble and "such other pertinent facts and conditions as they exist in Mexico" and to make a report to the Senate during the present session of Congress.

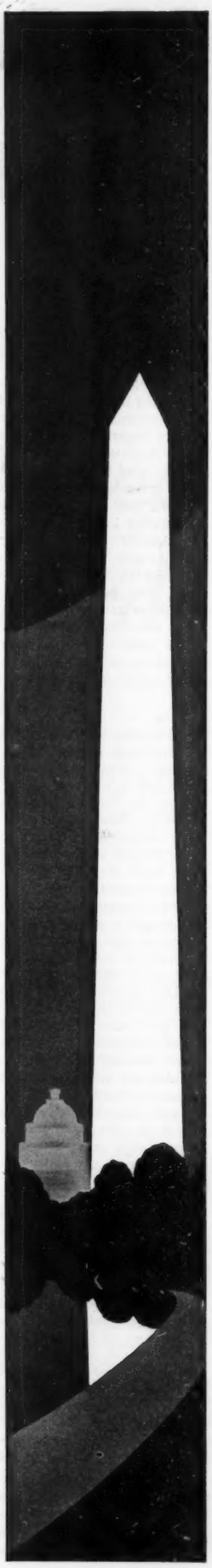
These resolutions quite likely will be pigeonholed by administration leaders but this will not put an end to the obvious concern of Congress regarding conditions in Mexico which affect American property and foreign relations. Increasing alarm is being expressed publicly over Nazi penetration in Latin America and the general public is becoming informed of the fact, known in the oil industry for some time, that Mexico is bartering oil confiscated from American properties for German and Italian machinery and manufactured goods of various kinds which formerly were purchased in the United States. American manufacturers of equipment who have thus lost their Mexican markets are complaining to their congressmen and a backlog of resentment against Mexico appears to be growing up which sooner or later will be reflected in the State Department's official attitude.

Indirect Retaliation

Even if Congress does nothing directly about the Mexican oil situation there is a good chance of an indirect retaliation against Mexico through a change in the Government's silver policy. Since 1933 the Treasury has been buying foreign silver in large quantities and a great many of these purchases have been made in Mexico. At the time of the oil expropriations last spring the Treasury terminated direct silver purchases from the Mexican Government but continued to purchase Mexican silver from dealers in as great or greater quantities as before. This silver purchase policy was inaugurated by an act drafted by senators and representatives from silver-producing states on the theory that it would raise the world price of silver as a monetary standard, thus increasing American exports to these countries. It is now obvious these results have not been achieved and there is growing pressure in Congress to terminate the foreign silver purchase program. A number of bills to accomplish this have already been introduced in Congress and it is understood many of the congressional spokesmen for domestic silver interests are ready to agree to an abandonment of the foreign purchase program provided the Treasury continues its practice of purchasing newly mined domestic silver at a price considerably higher than the world market. Termination of government purchases of Mexican silver therefore may be brought about without any direct reference to Mexico and purely as a matter of domestic policy, but such action undoubtedly would have a very adverse effect on the Mexicon economy, since there is good reason to believe that without the American market for Mexican silver the Mexican Government would immediately be faced with such a serious shortage of cash as to cause a breakdown in internal affairs.

While outwardly the State Department continues its policy of patience in dealing with Mexico, it is known many officials are very much dissatisfied with the answers of the Mexican Government to American notes suggesting payments for the expropriated American property. Negotiations were virtually suspended during the Pan American Conference at Lima, but now that is over the department may be expected to resume active consideration of the Mexican situation, particularly in view of the reports of growing Nazi influence south of the Rio Grande. This expectation is substantiated by reliable information that certain other government departments are making intensive studies of various aspects of our relations with Mexico.

In view of these various manifestations of growing public concern over the course of events in Mexico, it is a safe conclusion that this government will take some definite steps regarding the oil expropriations in the relatively near future.



I.P.A.A. Committee of 36 Work Is Topic of Two Statements

By RUSSELL B. BROWN

Another step in the effort to determine the facts behind the present situation in the petroleum industry was taken when the committee on refining and marketing, a subcommittee of our Committee of 36. held conferences with various governmental agencies, including the Federal Trade Commission, the Securities and Exchange Commission and the Antitrust Division of the Department of Justice. These conferences aided the committee to obtain the necessary background for its study of the problems of the refiner and marketer as a preliminary to an attempt at their solution.

The vote of the Committee of 36 that this subcommittee inquire into the question of a survey of the industry to be made by a distinterested and impartial body may yet bring about a scientific and unbiased study of petroleum problems.

I have requested the Federal Trade Commission to inform us whether it would be advisable to approve any part of the marketing code on which hearings were held in February, 1937, and also whether it would be possible to amend other portions so that they could receive the approval of the commission.

Situation Reviewed

The attitude of major companies toward any sound conservation program may be determined from their conduct. What is the obvious conduct to which our attention is now directed?

In the Panhandle of Texas, in North Texas, in southern Oklahoma, in the Osage Nation and Northeast Oklahoma, in Kansas—to name just a few—there is evidenced a determined program by majors to abandon wells of settled production in favor of the more flush and prolific fields in which they own the greater portion, leaving the producers in these older fields prostrate, to survive if they can. The effect of this action is that these producers, in the period between prostration and death, must find new purchasers who dictate to them the price they will receive for their crude regardless of its value. This crude is reaching the market in the form of refined products that can be sold below a parity with refined products from crude bringing a reasonable price, thus affecting the retail markets for all oil.

Another example is found in the price paid for crude produced in Michigan, which though it amounts to only approximately 50,000 bbls. a day, can be marketed in Chicago, in the form of refined products at a realization about 35 cents less than the posted price for crude in the majority of the fields finding this territory as their outlet.

It is variously estimated that between 30,000 and 50,000 bbls. of oil are being sold daily by producers at less than the posted price and this is being pointed to as the reason for the breakdown. While this fact indicates a bad situation, it is insignificant when compared with the 800,000 to 900,000 bbls. being sold by major companies through their marketing outlets at a realization far below the posted price.

Are we to be amazed that an increasing number of intelligent men are finding their sympathies unconsciously swinging to some provision for an over-all conservation program that will ensure to the entire industry a sane development of its petroleum resources?

Are we exercising intelligently that industrial freedom for which we cry so loudly?

The constructive attitude of the Committee of 36 as evidenced by their action indicates a faith that when the problems of the industry are clearly set forth they would be corrected by those on whom that responsibility rests. Events since the last meeting of this committee are not justifying that faith. It now appears but natural that those in whom this faith was placed must act to justify that faith or else those who placed that faith must withdraw it.

The next step taken by the Committee of 36 should be interesting.

Move for New Conservation Laws

The movement in many states for the adoption of new conservation laws or the revision of existing statutes is important. Lack of proper legislation is intensifying the problems of the industry.

In Michigan the producers are being cheated out of much of the value of their oil. Buyers are taking advantage of the helplessness of the producers and are paying 35 cents below the parity price. Products of this oil are being dumped in the Chicago market area, to the damage of the producer and refiner of oils from other fields.

Illinois producers in the new field seem scheduled to be punished, just as so many producers in other new fields have been punished in the past. Purchasers of their oil are willing to take it at as low a price as the producer will accept. They will probably continue to do this until the Illinois producer is protected by proper legislation which will stop this looting of the state's oil reserves. Would it not be well if the Illinois producers could get before a legislative committee some bill so that hearings could develop just the sort of law that is required.

It is encouraging to note that the Arkansas Legislature is considering a sound conservation law which should aid in remedying the situation in that state.

Louisiana indicated at one time, by a reduction in its excess production, that it knew what to do. Whether it will do what it should is another question.

The attitude of California producers evidences a determination to do their part in correcting the production situation.

Marketing Situation

The purchaser cuts the price of crude so he can cut the price of gasoline so he can cut the price of crude so he . . . . . !

Our brief glimpse into the marketing end of the industry promises entertainment. Imagine a man who could not borrow $100 from the bank, is importuned to enter the business. He is loaned a palatial station, furnished expensive equipment, and clothed with the authority and responsibility of a full-fledged marketer in a great industry and then (what is really funny) this man determines the price at which this industry will dispose of its products.

Current Comment

Present conditions in the oil industry are being widely discussed. Particular attention is being paid to adjustments needed to assure stability through 1939. The two accompanying letters incorporate views which are related to the work of the I.P.A.A. Committee of 36. One is a report by Russell B. Brown, I.P.A.A. counsel, to President Charles F. Roeser. The other is a letter from R. H. Foster, executive vice president of Landreth Petroleum Corp., to Chairman Wirt Franklin of the Committee of 36.

By R. H. FOSTER

A rumbling threat of another cut in the price of crude oil is daily becoming more pronounced. When our committee adjourned its December meeting it was thought that a program was in the making which would, within five or six weeks, offer us a feeling of security and even of improvement. The reverse has happened. Again and more and more we hear that uncontrolled practices in Illinois, Louisiana and other places are undermining the price structure. What are we going to do about it?

Our association has cooperated with the Railroad Commission of Texas, the chairman of the Interstate Compact Commission, Colonel Thompson, and his committee, in an effort to curtail the production of crude oil so that stocks might be reduced to a scientifically sound level and so that currently thereafter a balance might be maintained of supply against demand.

What results followed? Two principal ones: (a) What might be termed a physical result, i.e., crude oil production has been controlled and is now approximately 230,000 bbls. per day less than it was at this time one year ago; crude stocks within the past year have been reduced more than 30,000,000 bbls.; gasoline stocks have been reduced more than 7,000,000 bbls. below the corresponding period of 1938; gas-oil and fuel oil stocks have risen some 23,000,000 bbls., but even so the over-all reduction for the 12-month period just passed is more than 14,000,000 bbls. or about 1,175,000 bbls. per month. This result was the one primarily desired. (*b*) The second result is an economic one. The price of crude oil suffered a substantial cut. The two results do not mesh. Only by some arbitrary action could the second coincide with the first; it is necessarily artificial.

Rumors of Discontent

When the Railroad Commission of Texas looked at this picture and listened to the rumors of discontent coming from the offices of the major units, it evidently decided to find out what was wrong, for in calling the statewide hearing for the month of December representatives of these units were requested to come before the commission and there state their views and plans so that the commission might better determine what constructive action should be taken to remedy the condition which everyone regarded as unsound and bad.

At that hearing, the representatives of a large number of the major companies and many independents, through their testimony, recommended in the main the following:

(*a*) That production of crude oil be held within the Bureau of Mines recommendation, with a shutdown of two days per week.

(*b*) That the Railroad Commission of Texas announce its production policy for a longer time than month-by-month, indicating that at least 90 days would be a desirable period for the commission to so use.

Assuming the foregoing recommendations to be heeded, what did these companies suggest as the desired position of the industry on March 31, 1939?

(*a*) That crude stocks remain approximately at the level that then existed but that, with the commencement of the period of heavy consumption, these stocks be gradually reduced. The extent of the reduction was not a point of common agreement.

(*b*) To place refining operations upon a basis that would result in having about 82,000,000 bbls. of gasoline in storage on March 31.

The Railroad Commission of Texas promptly conformed to the recommendation made with respect to

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Confiscated oil in storage pit near an East Texas refinery

Confiscated Oil Sales Halted By Texas Attorney General

By D. H. STORMONT

FORT WORTH, Tex., Jan. 30.—Problems in the East Texas field arising from sales of confiscated crude and refined products at prices far under their true market value are expected to be eliminated with the next several months. The state attorney general's department is now formulating a new policy for handling the commodities that are subject to confiscation, and for the time being, the department is holding up all sales.

Whether or not Attorney General Mann is able to devise a method whereby the state will receive a better price for the confiscated commodities, East Texas refiners during the coming months of 1939 probably will be bothered much less by competition from these low-price materials as the situation has nearly remedied itself—the supply of confiscated oils and that subject to suit having almost dwindled away.

In September of last year the Railroad Commission completed a survey which revealed there was a total of 2,179,000 bbls. of oil in storage that was subject to confiscation or had been confiscated. At that time suits had been filed against 1,418,428 bbls., another 593,482 bbls. was in litigation of other kinds, and 167,792 bbls. was simply in storage, unmovable into commerce. Of the total, 910,644 bbls. was stored in open pits in the field and 1,269,058 bbls. was under steel storage. Approximately half of the total, or 1,032,763 bbls., was classed as weathered crude.

Since that time, a total of 1,884,546 bbls. (including 73,903 bbls. sold so far this year) has been sold at sheriffs' sales, indicating there would be only 295,100 bbls. left to be filed against or sold at auction. Officials in the Kilgore division of the commission expressed belief the total amount yet to be acted upon was slightly more than 295,100 bbls., somewhere between 350,000 and 450,000 bbls. The commission and the attorney general's department are now making a survey to determine the exact quantity in storage and to find the total quantity, selling price, gravity, etc., sold since the confiscation law was enacted in May, 1935.

TABLE 1—SALES OF CONFISCATED OIL DURING 1938

Month of sale	Amount of sale (bbls.)	Price	A.P.I. gr.	Type storage
March	21,469	20¼	24.2	pits
April	*13,810	41–42	...	tankcars
September	122,625	30	34.0	pits
September	46,922	12½	21.0	pits
September	126,902	17	22.0	pits
October	86,634	31½	38.5	tanks
October	53,045	30	38.4	tanks
October	204,206	28	38.0	tanks
October	44,166	20	26.3	tanks
October	36,043	30	33.0	tanks
October	151,269	17	26.3	pits
October	107,881	17	23.0	pits
October	40,252	27	37.9	tanks
November	34,584	21½	33.0	tanks
November	106,287	20	33.6	tanks
November	86,605	14	19.0	tanks
November	24,383	16	23.5	tanks
November	19,963	25	33.8	tanks
November	94,428	25	36.0	tanks
November	34,000	24	38.2	tanks
December	102,221	27	37.2	tanks
December	24,449	22	37.0	tanks
December	116,583	12	22.0	pits
December	24,287	18	35.0	tanks
December	4,803	11	22.0	pits
December	26,084	12½	25.0	tanks and pits
December	19,104	20	36.0	tanks
December	72,917	20	36.1	tanks
Total	1,845,922			

*Refined products.

Best available compilation of past sales shows that around 4,800,000 bbls. of so-called confiscated and injunction oil has been sold since the law was passed. Of that amount, 73,903 bbls. was sold this year, 1,845,922 bbls. during last year (see Table 1), 362,616 bbls. in 1937, and the remainder of 2,497,559 bbls. in 1935 and 1936. Tht 1938 sales netted the state only $404,300 from which court costs, etc., had to be deducted.

As shown in the table, most of the crude and refined products sold far below their true market value. East Texas crude averages 38 to 39 degrees A.P.I. when produced with a present posted price of $1.10 per barrel. Using the normal 2-cent differential when oil is bought on a gravity basis would place 35-degree oil at about $1.02; 30-degree oil around 92 cents; and 25-degree oil at about 82 cents. While the above assumption may not be entirely correct, in most instances it reveals the oil was purchased at "bargain prices."

Typical 38-degree East Texas oil yields about 32 per cent gasoline recovery and 15.1 per cent kerosene under straight distillation. An original 38-degree oil when it has been reduced to around 31-gravity will have lost all its gasoline that can be had without cracking, and about one-third of its original oil. When reduced to 18-degree oil, it is little better than residuum as about 75 per cent of its gasoline has been lost. Thus, in most instances, the crudes have lost about one-half of the gasoline that could be gained from cracking and distillation, and in some instances the material was, for all purposes, only fuel oil.

The main reason for materials being auctioned at such comparatively low prices is: (1) Inability of the purchaser, if other than the refiner in possession or any other so-called owner, to obtain a clear title; (2) the fact that a federal tender cannot be secured on either the crude or its products, thus preventing these materials from entering into interstate commerce. Thus the market for oil is practically limited to a few refiners in East Texas who are operating only under state tenders, there now being five such plants. If any of the East Texas plants operating under federal and state tenders (at present, six) or any plants outside East Texas, should attempt to run the oil, they would immediately lose their federal tenders.

The oil cannot be traded with federal tendered oil to permit its being placed in a pipe line and traded from one end to another. In one instance in 1935, an independent moved some confiscated oil in its line, but only after it had complied with a federal board requirement that the federal tendered oil be emptied from the line by displacement with water and that, after the confiscated crude was through the line, it also be displaced by water before returning to normal operation. This procedure is too expensive to permit handling the intermittent batches, so the oil is confined to the field. A group of majors some time ago purchased some of the oil with the idea of removing it from the field or reselling it to some

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Acme

PAYNE H. RATNER, new Kansas governor, in reviving the oil advisory committee to cooperate with the Kansas Corporation Commission "in working toward a correction of the factors which have contributed to the general decline of the oil industry in the state," said: "I have no recommendations to make. If I knew what is wrong with the oil situation I wouldn't have appointed this committee."

STATE CAPITALS

KANSAS

ALLOWABLE PRODUCTION OF CRUDE oil in Kansas in February was fixed at 153,900 bbls. per day by the Kansas Corporation Commission. The figure is in line with refinery demand, according to E. G. Dahlgren, state conservation officer, but is 5,300 bbls. per day above the estimate of demand for Kansas crude made by the U. S. Bureau of Mines.

The commission took under advisement a request for a blanket emergency order to permit operators in prorated areas to exceed their January allowables by 500,000 bbls.

GAS ALLOWABLES in February were placed at 2,921,000,000 cu. ft. in the Hugoton field; 1,135,000,000 cu. ft. in the Otis field; 423,000,000 cu. ft. in the Burrton field, and 336,000,000 cu. ft. in the Lyons pool.

THE NEW OIL ADVISORY COMMITTEE to the Kansas Corporation Commission as named by Governor Payne H. Ratner comprises Ralph Pryor, of Wichita, chairman; John Denman, Jr., Sedan; Max Mahaffey, Eldorado; Joe Aylward, Wichita; Evan Pyle, Wichita; C. D. Kirr, D. R. Lauck, Wichita; Ward A. McGinness, Eureka, and Fred Mallonee, Wichita.

ILLINOIS

TWO BILLS AIMED AGAINST THE OIL AND gas industry in Illinois were dumped into the Illinois legislative hopper in the past week. One by Representative Charles H. Weber, of Chicago, would void leases where drilling operations are not commenced within 90 days from the date of their making, and the other sponsored by Representative Paul Powell, of Vienna, Scott County, southern Illinois, calls for a tax of 5 cents per 1,000 cu. ft. in the sale of natural gas.

CALIFORNIA

THE EMERGENCY EXECUTIVE COMMITTEE of Independent Oil Operators, which is attempting to reduce California crude oil production to a maximum of 600,000 bbls. per day, has presented the problem to operators in Kettleman North Dome field and this group has agreed to take it under consideration and will give the results of their findings to the emergency committee within a few days. Operators in the Torrance and Harbor City fields have advised the committee that they will keep all wells within the 300-bbl. per day maximum, but find it impossible to shut down one day a week as has been done in the Long Beach field. It was pointed out that the decline in deep zone wells is at the rate of about 33 per cent per month and that if a well comes in at less than 700 bbls. per day it will never return drilling costs. In addition it was stated by the field committee that less than 10 per cent of the deep wells had thus far paid out and that at least 25 per cent will never pay out. Drilling operations in the deep zone have indicated that wells in some portions of the area whose initial production is clean oil, produce from 40 to 60 per cent water within 60 days and that a well that is shut down for pump replacement, or other remedial work, almost never comes back on production at the rate prevailing before the shutdown period. Santa Fe Springs operators say it is impossible to adopt a shutdown period of one day each week due to requirements for natural gas but have promised that field production will be reduced approximately 2,700 bbls. per day by shutting in wells and otherwise restricting production.

OKLAHOMA

NO CHANGE IN ALLOWABLE production of crude oil was made in Oklahoma for February. The Corporation Commission fixed 428,000 bbls. a day as sufficient to meet market demand.

LOUISIANA

LOUISIANA'S DAILY ALLOWABLE crude oil production in February was set at 255,140 bbls. or an increase of 3,800 bbls. daily over January.

The February allowable for South Louisiana was placed at 190,590 bbls. daily and that for North Louisiana at 64,550 bbls. per day.

TEXAS

FEBRUARY HEARINGS CALLED by the Railroad Commission of Texas include: Hearing on February 15 for the purpose of determining a proper market outlet for the Cayuga field, now cut to about 25 per cent of its daily allowable by lack of market outlet; hearing on February 4 for determining whether or not special field rules and regulations should be adopted for the Riverside field of Nueces and San Patricio counties; hearing on February 3 for determining field rules for the area surrounding Rogers & Rogers discovery on the J. F. A. Burnett fee, J. Lenow Survey, Montague County.

MICHIGAN

A BILL DESIGNED to give complete authority to the state conservation department, with the aid of an advisory board representing major and independent producers, to prorate oil production and control the industry in Michigan was introduced on Monday, January 30, in the lower house of state legislature by Representative Alexander M. MacKay, of West Branch. The bill is understood to have the backing of a large group of producers, through their representatives on the board of directors of the Oil and Gas Association of Michigan.

Under the bill waste of oil or casinghead gas would be made unlawful. The director of conservation would be supervisor of wells, as now, and would be subject to a check by the conservation commission and by an advisory board made up of six leaders of the industry, serving staggered terms. The supervisor of wells, with such checks, would make rules and regulations for the industry which it would be unlawful to violate. Permits would have to be obtained to drill and produce, and in times of overproduction the oil brought to the surface could be prorated both as to fields and within fields. Such proration as the industry now has in Michigan is purely voluntary.

In platted areas, drilling units could be standardized, probably at 10 acres, and each property owner would benefit from the production in accordance with the amount of property he held in the unit. This is designed to give control sufficient to prevent helterskelter townlot drilling such as has been experienced the past seven months in the Bloomingdale area of Van Buren County, where as many as seven wells have been drilled on a 20-acre tract.

ARKANSAS

CREATION OF A STATE OIL AND GAS commission with vast regulatory powers was recommended to the Arkansas Senate by one of its committees.

Reporting out after lengthy debate the proposal by Senator Richard K. Mason of Camden, the senate oil and gas committee agreed to give the governor a free hand in appointing the proposed five-member commission.

Designed to "put teeth" into conservation of oil, the bill provides that the commission would have police power over drilling, spacing of wells, production limitations, transportation, and sale of oil and its products.

The powers of the commission, designed to replace the present Conservation Board, virtually would be unlimited over all fields discovered after January 1, 1937, and in all other fields except in the matter of previous contracts.

The OIL AND GAS JOURNAL

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Incongruous

The refining industry appears in an incongruous position in that what has been accomplished in one phase of its activities is being discounted by failure to find adequate solutions for problems existing in another phase.

Possibly a study of these accomplishments may suggest a practical solution for the failures.

The art of refining, which has always been advancing, is now entering new fields that are strengthening its position by creating a background for several further accomplishments.

The industry went a long way in the application of pressure and heat in the distillation of finished products. It brought not only greater yields in the more desirable products but also improved quality of all products.

This was accompanied by the development of fractionation, which made it possible to derive products of practically any specification desired.

The new trend is to go a step farther and seek the aid of catalysts in perfecting refinery processing. The rapid growth of solvent refining in the manufacture of lubricants and the use of additives in compounding finished oils are further evidence of this chemical era in refining.

Developments suggest that this will prove of wide significance and result in still greater progress in the perfection of products and the securing of larger yields of the products for which there is the greatest demand.

All this is a long distance from the old method of refining consisting of the purely physical separation of the products which make up a barrel of crude oil. It has tended to place petroleum refining upon a sounder basis and assures the progress which is the very essence of all industrial growth and should be the basis for permanent stability in that branch of the industry.

But the obvious fundamental weakness in the industry is that the marketing of these products is just as unsatisfactory and confused as it ever was. Thus the accomplishments of one branch of the industry are largely offset by failure in another.

Any one familiar with the price trends over the past two years, for instance, knows that whereas refiners were entitled to higher prices for their better products they have in fact seen their markets gradually declining.

This situation suggests that refinery executives and heads of sales departments might profit from a study of how the accomplishments of the manufacturing departments have been brought about.

The art of refining is advancing rapidly because the operating companies and those closely affiliated have been willing to spend large sums in research work. Highly-trained technicians have been retained, disassociated from everyday problems, and placed in position to engage in purely scientific study of the art of refining. With that as a base, they have been able to suggest to the development departments changes which are entirely responsible for remarkable achievements in manufacturing operations.

This has not been the result of chance but of a well correlated program based upon a real understanding of the problem in the first instance.

There has been nothing like this in the marketing branch. With a few exceptions there has been no real study of the merchandising problems of the industry.

No one seems to have an accepted knowledge of what the real conditions are and consequently there never has been any sustained progress in solving the problem.

Is it not time for companies, either individually or on some phases collectively, to apply the same principle of research and study to marketing that they have done so successfully in manufacturing?

CONFISCATED OIL

(Continued from Page 21)

of the independent East Texas refiners at a higher price, but the oil has not been moved. Thus it is apparent only a very limited market exists for the crude. This small market, coupled with a reported agreement among the state-tendered refiners not to bid competitively against the refiner in possession or any other so-called owner, accounts largely for the low selling price.

Since the refined products must be kept entirely inside the state—even the fuel oil derived cannot be burned in railroad engines operating interstate—they must be marketed locally on a highly competitive market or be freighted to nearby cities. Thus the refiner-purchaser is gambling to a certain extent upon the amount he will be able to derive from the refined products. Also, depending upon the location of the purchased oil in the field, type of storage and opportunity for moving it from its place of storage to the refinery, the purchaser must add as much as 15 cents per barrel to the cost price of 11 to 31 cents shown in the table. And, since it is usually his own crude he is buying back, an additional cost of production, well payout, etc., must be added to this total.

Question of Title

In regard to inability of the purchaser to obtain a clear title, the confiscation act first defines unlawful oil and unlawful products, and then sets forth the procedure for confiscation of the same, treating in part, as follows:

"Section 10. (*b*) When the attorney general is advised from any source of the presence and existence of unlawful oil and/or unlawful products it shall be his duty to institute a suit *in rem* against such unlawful oil and/or unlawful products and against all persons owning, claiming or in possession thereof. . . . . "

"(*c*) Notice of pendency of such suit shall be served in the same manner prescribed by law; . . . . . If upon the trial of such suit, the oil or products in controversy is found to be unlawful oil or unlawful products, then the court trying said cause shall render judgment forfeiting same to the State of Texas and authorizing the issuance of an order of sale . . . ."

In the case of Texas v. J. D. Wrather and others, pending in the District Court of Travis County in September, 1938, a brief was filed pointing out in part that "it appears that there is no statutory provision (specifically) fixing the character of process or the manner of service in a confiscation suit. . . .

"If it is found to be advisable to continue the confiscation proceedings without having the statute amended, then there is a very strong argument that a valid judgment will be obtained if the trial court directs, as it has in a number of instances, the character of notice to be given all persons interested and the manner of its service —the statute truly describes a proceeding *in rem*. Why not simply sue 100,000 bbls. of oil (described as to gravity and location) and all persons, claiming or in possession thereof?—if the court should adopt such procedure, and if the notice should be given as directed, then it is almost certain that a better price will be obtained at any confiscation sale based upon a judgment supported by such process and service."

The new attorney general, Gerald Mann, has indicated that efforts will be made to secure judgments binding against the world and thereby to get better prices. Adopting to some extent, the procedure outlined as a start, Mr. Mann has requested the courts to set aside already rendered judgments in order to be able to give notice to the world, if need be authorized, and thereby encourage bidding. He may suggest that the legislature alter the statute, allowing the state to bid on the oil and to authorize specifically services of process which will bind the world. For the time being, all scheduled sales have been canceled.

It was along this line that Mr. Mann obtained approval of an Austin district court on motions setting aside old judgments and ordering new forfeiture trials on 48,000 bbls. of oil that had been confiscated by the state. The court action included a portion of the 125,000 bbls. on which he recently cancelled scheduled auctions.

I.P.A.A. COMMITTEE

(Continued from Page 20)

production and announced a policy for a 90-day period. Thereafter, the Interstate Compact Commission met in Fort Worth and indicated its approval of such program. Faith has been kept by these units and especially by the Railroad Commission of Texas. Our committee considered this situation and decided to observe its development for a few weeks to see if a solution of our immediate difficulties might result therefrom.

What has the industry done to keep faith with the Railroad Commission of Texas, Colonel Thompson and the Interstate Compact Commission? In so far as the producing branch of the industry is concerned, it has cooperated to the fullest extent. There are now about 735,000 bbls. less oil and its products in storage than there were at the time of the hearing and of our meeting. Production has been held under consumption by that figure, whereas it was contemplated, at that time, that production would exceed consumption by an amount sufficient to increase the gasoline storage from the then figure of about 69,000,000 bbls. to the theoretically desired level of about 82,000,000 bbls. on March 31.

In contrast, however, what has the refining branch of the industry done toward conforming to this program? To comply therewith, it would have meant that runs to stills for the period of October 1, 1938, to March 31, 1939, should approximate 3,100,000 bbls. per day. What are the actual runs? Last week (January 14) 3,260,000 bbls. per day, and, unless curtailed, March 31 will find the refineries carrying some 8,000,000 bbls. more of gasoline than the leaders of the industry say are needed. This analysis shows that the refining branch of the industry has not kept faith and has not made a serious effort to conform to its part of what was tendered as a constructive program. The refineries are pulling upon storage at a time when it is not needed, and with what result? To build up gasoline stocks to a dangerous level when not needed and thereby to threaten the market.

Again, we hear rumors of discontent. And from whom do they come? The very major companies who stated to the Railroad Commission of Texas what was termed a desirable program and who, by virtue of controlling all but a small per cent of the purchasing and refining market, have within their own power (and it cannot possibly rest elsewhere) the means of regulating this output of the finished product.

When pressed for a reason for permitting runs to stills to exceed the proper limits therefor, these companies give varying excuses, but the two most prominently advanced are that they have to meet the competition of every small price-cutter in the several sections of the United States, and that they are afraid of another Madison case. This first excuse is usually bottomed upon an assumption that some producers in Illinois and elsewhere are selling a portion of their production below posted price and thereby affording small refiners a basis for underselling the market. Now, as a matter of fact, only a very small part of the production in Illinois or elsewhere can be sold to purchasers other than the major companies and the portion that can be sold and marketed is so small that it could not possibly have a material effect upon the consuming public. It will probably be impossible to ever reach the point where practices of this kind can be absolutely eliminated but now the same are so small in comparison as to be unimportant. In addition, our observation has been that, in these localities where such complaints originate, the major companies who complain of the practice go right along with the offending operators and both overproduce and undersell.

Petroleum engineers associated with major companies operating in the East Texas field: L. E. Brenkamp and B. L. Griffith, Atlantic Refining Co.; L. I. Mistrot, Arkansas Fuel Oil Co.; R. J. Emmer, Stanolind Oil & Gas Co.; F. N. Speller, Jr., Humble Oil & Refining Co. and A. S. Rhea, Sun Oil Co.

With respect to the second excuse, which usually refers to the Madison case, it is time to discontinue letting the Madison prosecution poison our minds against the actualities of today and the possibilities of tomorrow.

Proper Storage

It seems to be the consensus of opinion that, when storage is placed upon the proper basis—and it is near that point, if not there, and can now be reached in any event over a period of several months without any special hardship to anyone, and production and consumption thereafter kept in balance — the only ills then left to the industry will be such as are irritating but not of material consequence. These irritating ills will center about a small amount of bootlegging, illegal production and underselling. If the major units will keep clear of these irritating ills, the same will be so small that they can be ignored. However, as the industry exists today and to meet the ills complained of by the major units, I have heard only three remedies suggested, and they are:

1. To ignore the irritating ills and carry out, through a plan provided by the industry itself, the approximate program outlined before the Railroad Commission of Texas at its December hearing, and to which our committee turned with hopeful assurance.

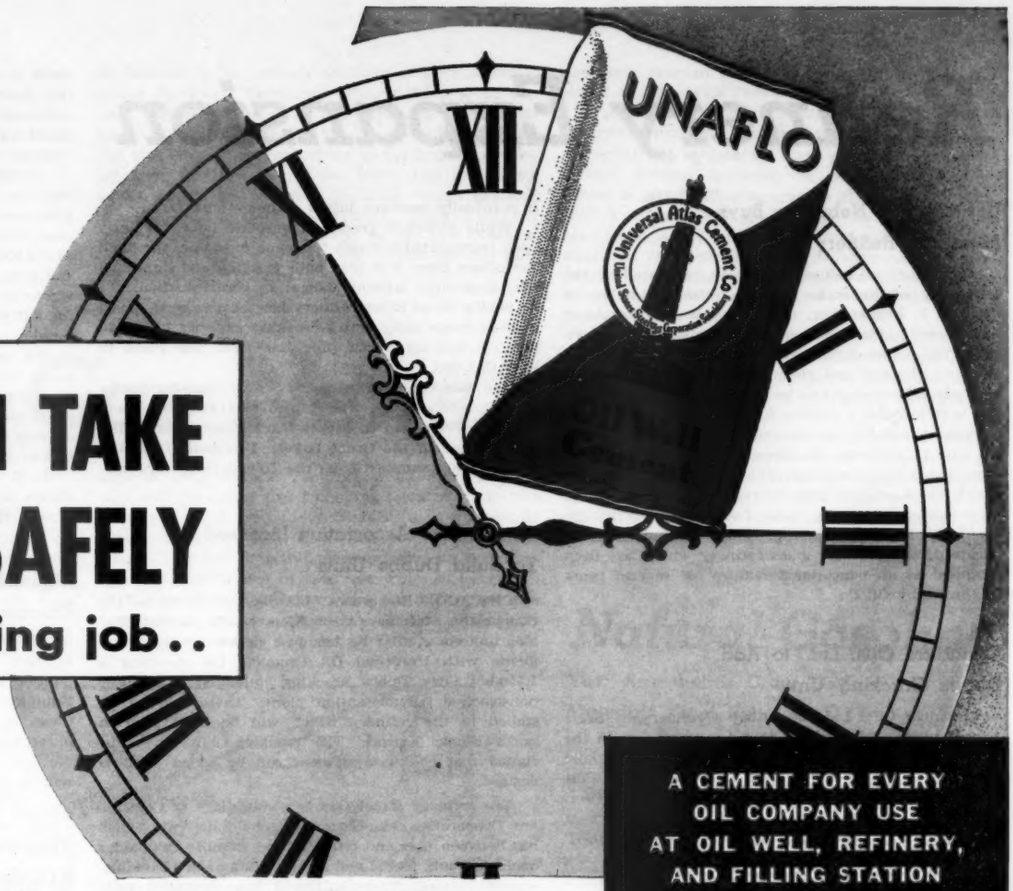
2. That we have a divorcement of production, pipe line, refining and selling into separate units, with respect to which there is some difference of opinion within our committee, many of its strongest and best informed members insisting that divorcement be accomplished.

3. Federal aid to the states in allocating production.

If the industry cannot adopt a program whereby it regulates the amount of oil to be produced and a systematic plan of refining the same and placing it upon the market and effectually carry it into operation, as it now appears that it cannot do, then nothing remains but for our committee to consider the other two remedies in the light of the evident failure of the first. Personally, I favor federal aid to the states in allocating production, as outlined in the tentative bill submitted to us by Judge Beaty. It now appearing that the industry is so weak and undependable that it cannot regulate itself, the federal Government should aid the states in seeing that only current requirements of crude oil are produced and that the needed demand is fairly and equitably allocated to the several producing states, and its refining supervised. Fundamentally, I believe that the industry should do its own regulating but, without the cooperation of the strong units in the industry this cannot be accomplished. To my mind, the major oil units have proved that they will not cooperate, so we should turn to the federal Government for aid. Congress is now in session. The issue is squarely before the industry. The answer will probably be given before March 31. Our association should get behind Judge Beaty's proposed bill and see that it is adequately and properly presented to Congress for passage.

The president of our association with other executives and committeemen are in Washington, seeking to obtain a release of the long pigeonholed code by the Federal Trade Commission. Many believe that, if placed in operation, this code will provide the means of remedying most of our ills. This effort on the part of this fine group should not be relaxed but their work should be supplemented by the action herein suggested.

A copy of this letter is being sent to each member of our committee, with the suggestion that those who concur in my view that we do something wire you requesting that you call our committee together.



YOU CAN TAKE 4 HOURS SAFELY

to do a cementing job..

Whether you need them or not, this oil-well cement stays fluid that long—But that's only one reason out of 12 why Unaflo saves you time, trouble, and money.

EASY-FLOWING, retarded-setting—and then rapid-hardening—that's the story in a nutshell about Unaflo Oil-Well Cement. It means fewer worries when something happens to interrupt a cementing job. Maybe you can correct it in a few minutes; maybe not for several hours. But for hours Unaflo remains fluid at high temperatures.

Important, yes. But look at these detailed reasons and see why it's easier and more economical to use this thoroughly-proved and widely-used oil-well cement—

12 GOOD REASONS WHY

1. Gives you more time to get it down.
2. Mixes and places easily with 35 per cent water, thus eliminating need for excess water, a big menace to good cementing.
3. Remains fluid under high temperatures.
4. Easier to regulate viscosity at tub.
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6. Not stiffened by mud contamination.
7. Not affected by salt water contamination.
8. Hardens satisfactorily in sulphate water.
9. Meets the requirements for sulphate resistance.
10. Makes squeeze and plug-back jobs easier, surer, more successful.
11. Unaflo permits operator to control cement rather than being controlled by it.
12. Unaflo has been proved by oil industry by consistently "coming through in the clinches" ever since its introduction.

A CEMENT FOR EVERY OIL COMPANY USE AT OIL WELL, REFINERY, AND FILLING STATION

ATLAS PORTLAND CEMENT

For *surface* work and for cementing *surface* casing. Unaflo cement is recommended for *deep* well work.

LUMNITE CEMENT

Is used in oil refineries for making refractory, insulating and heat-resistant concrete linings in still furnace walls, bottoms, roofs, foundations, ducts, flues and stack linings; tube sheet insulation. Lumnite cement makes corrosion-resistant concrete and mortar lining in distillation and cracking units; re-run stills; absorption systems; chemical treating and Ethyl plants.

ATLAS WHITE

The cement that is pure *white* and non-staining. Exceeds specification requirements for portland cement strength. Ideal for ornamental work in connection with service station construction and repair.

• Save money by using Unaflo first on your next job. Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), Amicable Bldg., Waco, Texas; Kansas City; Tulsa; Oklahoma City.

OG-U-8

Universal Atlas Cements

Refinery Expansion

University of Nebraska Buys Miniature Refinery

A complete oil refinery has been purchased by the University of Nebraska, on the recommendation of Prof. C. J. Frankforter, for instruction in petroleum engineering under the chemical engineering department. The model oil refinery is constructed of glass so that the physical and chemical changes taking place in crude oil refining can be clearly seen and studied. The unit includes a 50-tube furnace with fractionating equipment capable of continuously separating crude oil into 11 different fractions, each of uniform and controllable characteristics. The new plant, a detailed model which actually refines crude oil exactly as large refineries do, is being built for the University by Frank W. McCurry, Wichita, Kans. The unit is a duplicate of the portable glass refinery which has been exhibited as an educational feature for several years by the Derby Oil Co.

Canadian Oils, Ltd., to Add Dubbs Cracking Unit

Canadian Oils, Ltd., operating a refinery at Brandon, Manitoba, Canada, has placed a contract with the Born Engineering Co., of Tulsa, for the design and construction of a 500-bbl. Dubbs cracking unit. Construction is to start immediately.

Nesbitt, Thomson Co. Acquires National Refining's Canadian Subsidiary

National Refining Co. of Cleveland, Ohio, has disposed of its interest in Canadian Oil Companies, Ltd., an $11,000,000 concern, to the Montreal investment securities firm of Nesbitt, Thomson & Co. F. H. Littlefield of Toronto, president of the Canadian company, announced in Montreal last week that at a board meeting January 27 three United States directors representing the Cleveland company had been replaced by P. A. Thomson, John Irwin and E. G. Smith of Montreal. Mr. Irwin recently was displaced as president of the McColl Frontenac Oil Co. after a proxy battle with the Texas Corp.

Canadian Oil Companies, Ltd., conducts a coast-to-coast business in distribution of gasoline, lubricating oils and fuel oils. It refines and operates through 145 retail outlets. A refinery at Petrolia, Ontario, has capacity of approximately 3,000 bbls. per day. The company also owns and operates the Sarnia-Toledo Transit Co., which has an oil-carrying freighter running between Toledo, Ohio, and Sarnia, Ontario. E. G. Hill of New York, president of the Ford, Bacon & Davis engineering firm, was recently made president of National Refining Co.

Oklahoma Drafts Rules for Butane and Propane

OKLAHOMA CITY.—Regulations governing transportation, handling, and use of propane and butane gases soon will be promulgated by the Oklahoma Corporation Commission, it was announced here by E. D. Graham, chemist for the commission.

Present regulations of the commission, said Mr. Graham, do not reach the handling of these gases, which are recent developments in the field of gases for fuel and lighting purposes, and their highly combustible nature makes imperative, said Mr. Graham, the adoption of rules controlling their handling and use.

Shell's Chicago Plant to Close

The Shell Petroleum Corp. during the year will convert its crude oil pipe line from the Wood River, Ill., refinery, to East Chicago, for use in transporting gasoline and fuel oil, which will result in a curtailment of operations at the East Chicago refinery until it eventually becomes just a refinery tank farm.

While different grades of gasoline have regularly been transported through the same pipe line, the Shell Petroleum Corp. will ship both gasoline and light fuel oils, apparently without danger of contamination.

Shell's Wood River refinery has a capacity of 43,000 bbls. of crude daily and a cracking capacity of 29,500 bbls. It has an 8-inch pipe line from the plant to East Chicago.

The East Chicago refinery, which has a capacity of 30,000 bbls. daily, with 21,000 bbls. cracking facilities, has been used to supply marine terminals on the western end of the Great Lakes. Terminals from Detroit east are supplied from the Toledo, Ohio, terminal.

Cooperative Association Licensed To Build Dubbs Units

CHICAGO.—Howard A. Cowden, president of the Cooperative Refinery Association, North Kansas City, Mo., announces that he has just signed license agreements with Universal Oil Products Co. covering a 1,550-bbl.-a-day Dubbs cracking unit and a catalytic nonselective polymerization plant. These will be installed in the refinery which will be built soon in northwestern Kansas. The cracking unit is so designed that coking equipment can be added later, if desired.

The refinery association is a subsidiary of Consumers Cooperative Association—a wholesale unit which has between four and five hundred member companies operating bulk plants and service stations in 10 middlewestern states. The plant will have a daily crude capacity of 3,000 bbls. An adequate supply of Kansas crude is assured, and gathering pipe lines from the field to the refinery is a part of the project. Gasoline, kerosene, tractor distillate and Diesel fuel will be produced for cooperatives in northwestern Kansas, northeastern Colorado and western Nebraska.

Consumers Cooperative Association, organized in 1929 with $3,000 capital, now has total assets of nearly three-quarters of a million dollars. In its latest fiscal year, which ended August 31, 1938, total sales reached $4,284,909. In addition to compounding its own oils and greases and manufacturing paint, the cooperative wholesale organization handles a long list of other commodities used on the farm and in the home. Besides these goods it provides many services for member companies, such as auditing and publicity, and is engaged, along with other similar wholesalers, in the manufacture of power farming equipment. It is also a member of National Cooperatives, Inc., Chicago, central purchasing agency for nine cooperative wholesalers in the United States and one in Canada.

L. M. Johnston, formerly superintendent of the Producers and Refiners refinery (now Sinclair) at Parco, Wyo., will be in charge of refinery operations.

Liquefied Petroleum Gases to Be Discussed at Tulsa S.A.E. Meeting

At the February meeting of the Tulsa S.A.E. group, a paper will be presented by M. O. Tanberg, T. V. Supply Co., Springfield, Ill., entitled, "Carbureting Equipment Required for Use of Liquefied Petroleum Gases in the Automotive Engine." An exhibit of carburetion equipment, propane-butane vaporizers, valves, etc., will be used to illustrate the talk. The meeting will be held at the Mayo Hotel at 8 p.m., February 3.

Topping Unit to Be Built At Chinook, Montana

A topping plant at Chinook, Mont., to increase the

Pipe Line Activity

Along Northern Natural Gas Co. line between Ventura, Iowa, and Albert Lea, Minn.

Welding Contracts Awarded On Illinois Pipe Line

H. C. Price Co., of Bartlesville, Okla., has been awarded the contracts for electric welding on the following pipe lines: From Sheehan Pipe Line Construction Co., 158 miles of 10-inch and 12-inch in Indiana and Ohio for Illinois Pipe Line Co.; from White Deer Pipe Line Construction Co., 54 miles of 8-inch in Illinois for Illinois Pipe Line Co. All of the above lines are to be electric welded using the fleetweld process.

Lion Takes Over Management Of Atlas Pipe Line

Exercising its right under an option which has been in existence for several months, Lion Oil Refining Co. of El Dorado, Ark., last week took over active management of Atlas Pipe Line Corp. and subsidiary corporate units in Shreveport, La.

Lion entered into an agreement with stockholders of the Atlas companies, taking an option to purchase a controlling interest in Atlas stock. Although the option has not yet expired, the company is exercising its right in voting power to assume management of the Atlas properties.

New officers of Atlas Pipe Line Corp. are R. E. Meinert, president; E. W. Atkinson, vice president; E. P. Marrable, secretary-treasurer and J. L. Polk, assistant treasurer. Directors include E. R. Ratcliff, E. H. Gray, E. W. Atkinson, E. C. Carr, J. A. O'Connor, Jr., R. E. Meinert, R. B. McColl. Resignations of former Atlas officers were effective for E. R. Ratcliff, B. H. Gray and B. F. Connolly.

The Atlas refinery, in the Shreveport district, remains shut down until market conditions justify resumption.

market outlet for West Kevin crude and supply a local tractor fuel demand, is to be built by the recently organized North American Oil Refining Co. The company includes A. H. Dorn, Oscar R. Nevig, and Monte A. Burgess of Chinook; O. A. Nepsted of Ferdig; Harold Haugen of Kevin; Albert Holpen, Shelby, and P. F. Kierdrowski, Hogeland.

Fort Norman Refinery

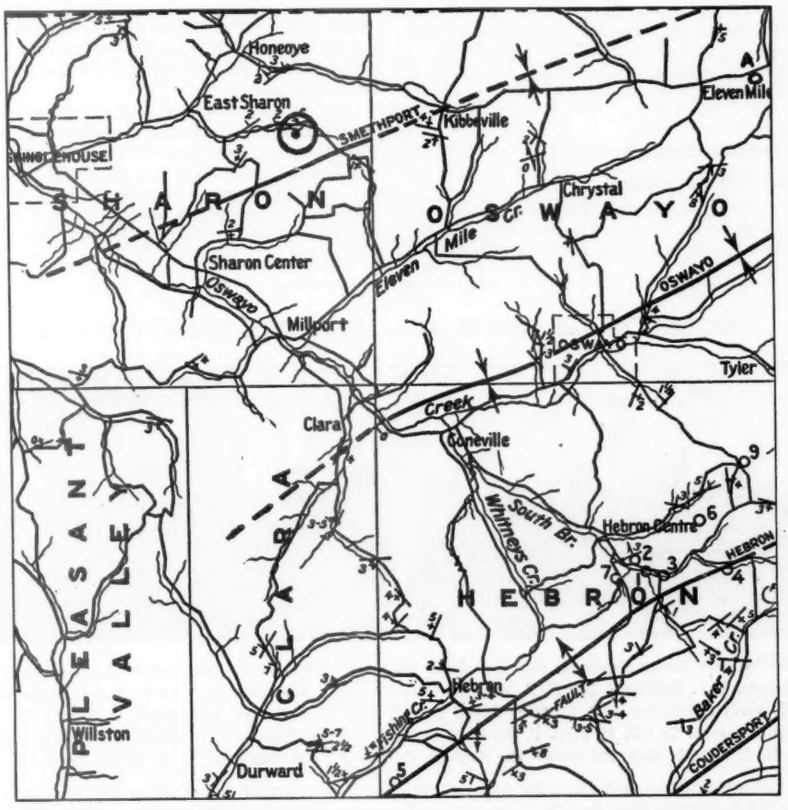
TORONTO, Ontario.—Imperial Oil, Ltd., is planning an increase in its refinery facilities at Fort Norman, in the Northwest Territories. This, claimed to be the most northerly refinery in the world, had a daily capacity of 150 bbls., marketing its products by barge and pipe line almost exclusively in the important mining areas of Great Bear Lake. Diesel fuel and heavy industrial oils are the chief products though gasoline is also refined to meet local demand. Crude is secured from two company-owned wells in the Fort Norman field, and refining operations are carried on only during the summer months.

Natural Gas News

Oriskany Sand Gas Extension

The Belmond Quadrangle Drilling Co. wildcat on the R. M. Wolcott farm on the Sharon anticline in Sharon Township, Potter County, Pennsylvania, is the most westerly producer of Oriskany sand gas in the New York-Pennsylvanian gas fields.

The accompanying map shows location of this well



by the encircled dot and its position in relation to previously proven areas, the letter A indicating the one successful State Line field completion in Pennsylvania and the numbers 1 to 9 indicating the locations of wells in the Hebron field. The map is from a publication of the Pennsylvania Topographic and Geologic Survey, eastern and southern boundaries of Sharon Township are shown. The western boundary is McKean County and the northern, New York State.

The Wolcott well is about 7½ miles west and slightly south of the State Line field well in Oswayo Township and about 9 miles northwest of the No. 1 Booth, discovery well in the Hebron field, Hebron Township. Earlier last year a well drilled about 4 miles southwest of the Wolcott test was completed as a dry hole at 5,297 feet without finding any evidence of Oriskany sand.

This well was completed in December and had an initial open flow of 17,000,000 feet with a rock pressure of 1,920 pounds. The surface elevation is 1,874 feet and the top of the Tully was found at 4,145 feet or subsea 2,271 feet; the Onondaga, at 4,670 feet or subsea 2,796 feet, and the Oriskany at 4,733 feet or subsea 2,859 feet. The well was bottomed at 4,735 feet. The full significance of this test will not be known until further drilling takes place but indications are regarded as favorable. Four tests are now under way which will prove or disprove the importance of this discovery. The fact that only four companies have the mineral rights on all adjacent properties indicates that this field, if such, will be developed in an orderly fashion.

American Equipment Exports Increased 50 per Cent in 1938

Principal buyers of American manufactured equipment for producing, refining, and transportating petroleum abroad increased their purchases during the first 11 months of 1938 more than 50 per cent above the entire year of 1937. In practically all respects the indications reflect the trend of activity in foreign operations of the industry.

From a standpoint of dollars spent in the United States for petroleum equipment, Venezuela continues to lead. Records show U. S. shipments of petroleum producing, refining, and transporting equipment to Venezuela reached $6,575,000 compared to $6,127,857 for all of 1937. With December shipments to be added it is probable Venezuelan receipts of U. S. petroleum equipment for 1938 will total more than $7,000,000.

During the 11 months, U. S. petroleum equipment makers shipped materials to Aruba and Curacao valued at $5,003,925 compared to $1,531,991 for all of 1937. Practically 100 per cent of the equipment dispatched to Aruba and Curacao was for refinery construction. This included tanks, refinery vessels, valves, fittings, engines, control instruments, piping, furnace tubes, and hundreds of other products used in refinery construction.

Countries in the Near East (Iraq, Iran, Saudi Arabia, Egypt, Bahrein Island, Kuwait) purchased American petroleum equipment valued at $6,118,161 during the 11 months compared to $2,472,703 during all of 1937.

The Dutch East Indies, during the 11 months, bought more than $5,000,000 worth compared to $4,800,000 in 1937. Total petroleum equipment exports during the 11 months to these four principal purchasers amounted to approximately $22,700,000 compared to $14,932,551 throughout 1937.

Natural Gasoline

New Anesthetics Draw Basic Materials From Petroleum

In recent years cyclopropane has been brought into use despite its cost at one time of $20 per pound. Recently, research at Purdue University has resulted in a method by which this gas can be made less expensively. The raw material from which it is produced is propane, a gas related chemically to propylene, which in turn is a first cousin of ethylene. Propane, like propylene and ethylene, is abundant around petroleum refineries and is available at a low cost. While cyclopropane seems to be an ideal anesthetic, superior to both ethylene and propylene, it will probably be some time before its use will become widely adopted.

In the realm of recent anesthetics, mention must be made of vinyl ether, a product related to ether. It appears that this material is more rapid in its action than ether and, therefore, of potential value where a quick action of short duration is desired.

All of the accepted anesthetics possess hazardous properties. However, the fatalities directly attributable to the products are few in number, since anesthetics are administered by trained people, and the anesthetic best suited to the particular case is used.

As research moves forward in quest of newer anesthetics, these developments probably will continue to draw their basic materials from petroleum.

Carney Heads N.G.A.A. Convention Committee

The eighteenth annual convention of the Natural Gasoline Association of America, according to J. A. LaFortune, Warren Petroleum Corp., president of the association, is scheduled for May 3-5 at the Hotel Tulsa, Tulsa, Okla.

B. R. Carney, Shell Petroleum Corp., Tulsa, has been appointed chairman of the convention program committee. Other members of the group are: E. L. Peck, Cities Service Oil Co., Bartlesville, Okla.; W. F. Fulton, United Gas Pipe Line Co., Houston, Tex.; J. R. Jarvis, Lone Star Gasoline Co., Dallas, Tex.; G. W. McCullough, Phillips Petroleum Co., Bartlesville, Okla.; Ray E. Miller, Hanlon-Buchanan, Inc., Tulsa, Okla., and J. W. Vaiden, Skelly Oil Co., Tulsa.

Present plans of the committee include emphasis on manufacturing problems, and a number of papers on plant design and improved processes are already scheduled. The economic position of the natural gasoline industry with reference to changes in motor fuel quality resulting from the extended facilities of modern refineries will also be thoroughly reviewed. Because of the increased interest shown by field men in the "kinks session" at the last three conventions, the committee is making this a permanent feature of annual programs and has assigned an entire day this year for discussions of field operating problems.

Federal Court Ousts Judgments Based on Madison Cases

MINNEAPOLIS, Minn., Jan. 27.—In a sweeping order handed down this week in the U. S. District Court here, Judge Gunnar H. Nordbye held that a judgment based upon nolo contendere pleas entered last year at Madison, Wis., by several major oil companies in a suit brought by the Government which has been called "Madison Case No. 2," was not admissible evidence in a civil suit for the same acts. He also held that the decision in the case tried by the Government against the oil companies which has been called "Madison Case No. 1" was not admissible evidence pending the appeal.

Judge Nordbye's rulings were made in a suit filed by Twin Ports Oil Co. of Duluth, seeking to recover treble damages amounting to $700,396 under the Sherman and Clayton antitrust acts, together with costs and attorney's fees. The original complaint was filed on April 28, 1938, and was amended on August 15, 1938.

Defendants named were: Pure Oil Co., Standard Oil Co. of Indiana, Sinclair Refining Co., Shell Petroleum Corp., Phillips Petroleum Co., Socony-Vacuum Oil Co., Inc., Skelly Oil Co., Continental Oil Co., and Cities Service Oil Co.

The complaint was based largely on the plea that the criminal proceedings instituted at Madison by the Government in "Madison Case No. 1" resulted in findings of guilt, and that in "Madison Case No. 2" nolo contendere pleas had been entered by some defendants in that case. However, appeals in the first case have been taken and are still pending before the U. S. Circuit Court of Appeals, in Chicago.

Judge Nordbye, on motion of defendants to strike certain portions of the bill of complaint, especially those with respect to the first Madison case, held that the decision rendered after the four months' hearings in the Wisconsin capital were inadmissible because there has been no final adjudication of the case.

The court also ruled in favor of the defendants on their motion to strike from the bill of complaint as evidence of the admission of guilt the plea of nolo contendere entered by the defendants before any testimony was taken in the second Madison case.

"That a plea of nolo contendere is an admission of guilt only for the purpose of the case is well-established by the authorities. Further, it is quite uniformly recognized by well-considered decisions that such a plea does not create an estoppel, and the defendant is not estopped to deny the facts upon which the prosecution was based in a subsequent civil proceeding. It cannot be used as an admission in a civil suit for the same act," the court held.

The court also held that the nolo contendere judgment was a consent judgment and was excepted from the Clayton Act. The order, in discussing the plea of nolo contendere which was entered by the defendants before any testimony was taken, points out that "Congress apparently intended to encourage consent judgments and decrees. It sought to induce a prompt surrender to the Government's demands by excluding consent judgments and decrees from the prima facie rule."

The court referred to the first proviso of the Clayton Act which excepts consent judgment or decrees, and said that "in the absence of any limitation on the words of the first proviso, it would seem that there should be no real difficulty in determining that Congress intended to refer to both criminal and equity proceedings in excepting consent judgments or decrees."

Twin Ports Oil Co. had made pleas of these judgments by reference, together with the indictments upon which the judgments were based, and had given notice that the judgments and indictments would be relied upon as evidence at the trial of the Twin Ports case.

To Represent Oklahoma On Interstate Compact

Governor Leon C. Phillips of Oklahoma has appointed W. J. Holloway, former governor, to represent Oklahoma on the Interstate Oil Compact Commission, succeeding Tom Anglin, and Charles Orr of Holdenville as attorney to succeed Mr. Holloway. Art Walker, secretary, was reappointed.

Mid-Continent Strike Situation Without Developments

In an attempt to conciliate differences between Mid-Continent Petroleum Corp. and the Oil Workers Union, C.I.O. affiliate, representatives of the U. S. Department of Labor have proposed the issues be taken before a board consisting of Leon C. Phillips, governor of Oklahoma, Harry F. Sinclair, and George Shaw, of Cities Service Corp. This offer was declined by J. C. Denton, vice president and general counsel of Mid-Continent. Dr. Edwin A. Elliott, Fort Worth regional director of N.L.R.B., says the National Labor Relations Board will order a hearing in Tulsa within a month.

During the week the company has given consideration to closing the West Tulsa refinery because of the additional expense in operating under siege conditions, but it was decided to continue to operate in spite of difficulties. The National Guard remains on duty. The company states products are moving from the plant at the normal rate.

Water Disposal Problems Studied in Kansas

Salt-water disposal problems in the oil fields of eastern Kansas are being studied and, in many instances, solved through cooperative efforts of the Conservation Division of the Corporation Commission, the state Board of Health, and the operators.

Late in 1938, E. G. Dahlgren, director of the Conservation Division, began an investigation of undesirable salt-water conditions in eastern Kansas. He found that in a number of cases the underground disposal of salt water has been both a technical and financial problem for the operator. He obtained the assistance of the Board of Health, and the two state agencies recently started a program of an educational nature, designed to assist operators in the handling and disposal of all types of oil-field waste.

Mr. Dahlgren is being assisted in this work by W. R. Jenner, field investigator, and R. D. Williams, geologist, Board of Health representatives cooperating with them are Ernest C. Boyce, engineer, assisted by Ogden Jones and Richard Prough, geologists. They report satisfactory progress already is being made in underground disposal in areas "where surface pollution was most noticeable.

HOUSTON OIL SHOW WILL FEATURE SAFETY WORK

Petroleum Industry Safety Engineers who completed plans for Oil-World Exposition safety program and meetings: J. J. Delahide, B. F. McDonald Co.; H. B. Williams, Pan American Petroleum Co.; Ed G. Lenzner, general manager, Oil-World Exposition; J. B. McAtee, United Gas System; T. S. Maffitt, Jr., Houston Oil Co.; F. P. Werner, American Petroleum Co.; G. M. Kintz, E. M., U. S. Bureau of Mines, Dallas; R. H. Horde, Shell Petroleum Corp.; H. L. Rankin, Gulf Oil Corp.; Vic Hayslip, Humble Oil & Refining Co.; C. A. Miller, Texas Co.

The importance of safety work in the petroleum industry will be an outstanding feature of the Oil-World Exposition in Houston, Tex., April 24 to 29, inclusive. The program will start Thursday evening with a banquet and meeting under the auspices of the American Society of Safety Engineers. Friday morning there will be a round-table discussion on safety practices in the petroleum industry under the chairmanship of T. S. Maffitt, safety engineer, Houston Oil Co. Friday afternoon, with P. E. Keegan, Shell Petroleum Corp., presiding, addresses will be given by Daniel Harrington, chief safety engineer, U. S. Bureau of Mines, and J. J. Forbes, supervising safety engineer of the bureau at Pittsburgh. During the afternoon a demonstration of fire and gas hazards will be given by G. M. Kintz, supervising engineer of the safety section of the bureau at Dallas, Tex.

Friday night, C. A. Miller, director of personnel, Texas Co., will introduce oil-field employes who have saved lives of fellow workers by rescue and artificial respiration, followed with a demonstration by S. E. Whiting, vice president and chief engineer, Liberty Mutual Insurance Co., showing safe procedure in rescuing workmen from inclosed spaces and gas-laden tanks.

The general safety committee of the Oil-World Exposition is composed of: J. J. Delahide, B. F. McDonald Co., general chairman; R. B. Roaper, Humble Oil & Refining Co.; C. A. Miller, Texas Co.; C. L. Hightower, United Gas Systems; P. E. Keegan, Shell Petroleum Corp.; F. P. Werner, American Petroleum Co.; Lee Connor, Texas Co.; H. L. Rankin, Gulf Oil Corp.; G. J. Gruber, Mine Safety Appliances Co.; R. H. Horde, Shell Petroleum Corp.; T. S. Maffitt, Jr., Houston Oil Co.; William Grant, Jr., Humble Oil & Refining Co.; C. M. Liles, Magnolia Petroleum Co.; C. W. Coleman, Gulf Oil Corp.; H. G. Bourne, American Optical Co.; Don Cross, Accident Prevention Co.; J. L. Manes, Sun Oil Co.; J. L. Risinger, Magnolia Petroleum Co.; E. W. Breeland, Lone Star Gas Co.; H. B. Williams, Pan American Petroleum Co.; Robert Skelton, American Red Cross; G. M. Kintz, Bureau of Mines; Rufus Owens, United Employers Casualty Co., and Ed Lenzner, Oil-World Exposition, Inc.

THE MARKETS*

CRUDE OIL: *A small reduction in crude oil production of the southern Illinois area last week, coupled with a feeling that the peak had been reached in a few pools, has brought a better feeling in the crude market. Pennsylvania Grade crude oils were advanced from 8 to 15 cents per barrel effective February 1. This was the second advance in these crudes this year.*

REFINERY: *Mid-Continent refinery gasolines are steadier owing to a better demand, but price changes elsewhere reflect weakness. Natural gasoline market east of California continues soft. Cold weather brings best demand of the year for fuel oils at several refining centers.*

TANK-WAGON AND POSTED DEALER: *Reports for the week show a few scattered reductions in gasoline and kerosene prices. Important gasoline consuming centers are included in the reductions.*

FINANCIAL: *Oil stocks continue decline with predictions that first-quarter earnings will be lower than any similar period since 1935. Average of 30 representative stocks for week ending January 28: High, 28.12; low, 26.34; close, 26.97. Week ending January 21: High, 29.04; low, 28.18; close, 28.37.*

**Detailed information in Market Section.*

INTERNATIONAL

Growing Discord Among Mexican Workers on Wages

There have been no recent changes in the physical operations of the Mexican oil industry. Exports continue against the W. R. Davis & Co. contract and to Eastern States Petroleum Co. at approximately unchanged rates. Direct sales to Italy, Germany and Japan are about the same as at the end of the year, estimated between 30,000 and 40,000 bbls. per day.

Meanwhile, the relationship between the Mexican Government and Mexican oil workers became more strained. There is evidence of growing discord among the 18,000 petroleum workers and the government over failure of the latter to institute wage increases totaling 26,000,000 pesos annually ordered in December, 1937. Refusal of the 17 U. S. and British oil companies to abide by the Federal Labor Board's award, which was later upheld by the Supreme Court, was the reason assigned by President Cardenas for the wholesale seizure March 18, 1938.

President Cardenas sent a special committee of lawyers and labor leaders, headed by Enrique Calderon, a Mexico City attorney, to Tampico last week to try to convince skeptical workers of the advantages of reorganization of the government-controlled oil industry looking to the elimination of overlapping agencies in the interest of economy. A recent attempt by Pemex, the government oil agency, to eliminate overlapping branches and service stations was opposed by the workers who feared the consolidation would result in wholesale dismissal.

In a circular urging Pemex officials and union members to cooperate with the reorganization committee, President Cardenas said he appointed Calderon because of the "urgent necessity of reorganizing adequately the petroleum industry in order to assure efficient functioning . . . as well as fulfillment of the terms of the December, 1937, wage award, which so far has not been put into effect due to the tenacious campaign which imperialist companies have made in placing obstacles in the way of our oil exports."

The president thus blamed the foreign companies, which have not operated in Mexico for more than 10 months for the fact that 18,000 oil workers have failed so far to receive the wage increase.

The official circular urged all concerned to work for a "common accord in finding a convenient formula for centralization of all oil activities." Pemex expelled three more employes last week on the ground that they engaged in espionage in behalf of foreign companies. The dismissals were part of the purge of "disloyal" workers that began several weeks ago.

Russian Oil Exports Down in November But Up for the Year

Exports of petroleum from the U.S.S.R. suffered a decline of 24 per cent in November, 1938, compared to the same month in the preceding year. For the first 11 months of last year, however, the petroleum exports totaled 1,439,598 tons, an increase of 21,676 tons compared to the same period in 1937. Shipments of all products, excepting fuel oil, suffered substantial declines last year. There was more than sufficient increase in exports of fuel oil to offset reductions in lubricating oils, kerosene and gasoline.

England was the leading purchaser of U.S.S.R. petroleum products shipped through the Black Sea passing Istanbul with Spain in second position followed by Denmark and Belgium. England received 31,555 tons in November; Spain, 14,950 tons; Denmark, 8,801 tons, and Belgium 8,100 tons. Total shipments of 73,016 tons of U.S.S.R. petroleum in export trade in November, 1938, compared to 96,380 tons for the same month in the preceding year.

Italian Petroleum Crude Imports Grow As Products Drop

Italian petroleum imports during the first 11 months of 1938 extend the revised lines developed by the building of an extensive refining industry in Italy. Crude oil imports during the first 11 months of 1938 increased nearly 60 per cent over the same period in 1937 totaling 9,915,000 bbls., compared to 6,202,500 bbls.

As was to be expected by the extent to which refining capacity was extended in 1937, Italian imports of refined products dropped almost in direct proportion to the crude increase. Imports of refined or semifinished petroleum products during the first 11 months of 1938 declined to 7,071,850 bbls., compared to 10,606,900 bbls. for the same 1937 period. Gasoline and fuel oil importations were the items of principal reduction. Gasoline imports declined from 2,111,500 bbls. during the first 11 months of 1937 to 765,850 bbls. during the same period last year. Fuel oil imports totaled 5,656,500 bbls. during the first 11 months of 1938 against 7,326,100 bbls. for the same 1937 period.

Five International Groups Exploring For Oil in Egypt

Approximately 22,000,000 acres of Egyptian territory, nearly 10 per cent of the country's total area, are now covered by mining exploration permits granted or awaiting approval. Five international oil groups are active in the acquisition of permits including Anglo-Iranian Oil Co., Ltd., Royal Dutch-Shell, Socony-Vacuum Oil Co., Inc., Standard Oil Co. of California in combination with Texas Co., and Standard Oil Co. of New Jersey.

In the revised Egyptian mining law of 1937 individual companies were limited in the acquisition of exploration permits to 100 areas each normally containing 40 square kilometers (about 10,685 acres) in a rectangle. Since the first large groups interested in Egypt have overcome these limitations by applying for permits in the names of convenient subsidiaries, the government is now considering increasing the maximum area of exploration permits to 240 square kilometers (nearly 60,000 acres) to avoid multiplicity of registrations.

All five groups interested in Egypt have field parties scouring their exploration permits utilizing modern methods of geological inspection and geophysical investigation.

From the standpoint of permits granted or on application the Standard of California and Texas Co. combination headed the list with 235 totaling 23,500 square kilometers. Considering, however, that Anglo-Iranian and Royal Dutch-Shell interests are combined, the two groups are actually even in the amount of territory covered.

Standard of New Jersey heads the list of individual representation with 191 permits, Socony-Vacuum has 185 granted or on application. Permits cover most of the area in the northern territory of the country from Salum to the Palestine border with exception of the Nile delta and the government-reserved area around Mersa Matruh. The blanketing of both sides of the Suez Canal indicates that both sides of the Gulf of Suez are to be closely reinvestigated as is the Egyptian coast line of the Red Sea.

German Casing In Mexican Barter Reaches Louisiana

German-produced oil well casing totaling 220,000 feet was discharged at Good Hope, La., January 19 and 27,000 additional feet of pipe were scheduled to arrive at the same port, near New Orleans, this week. The casing, consisting of 90,000 feet of 9⅝-inch; 130,000 feet of 7-inch and 27,000 feet of 15⅝-inch pipe, was received on the Louisiana coast in connection with the petroleum barter deal between Mexico and Germany, according to reports. Instead of going to Mexico, the German-made pipe, exchanged in lieu of free currency, was diverted to the United States for use in the Gulf Coast producing district. The petroleum involved in the barter deal with Germany, assuming that 10,000 to 15,000 bbls. per day shipped to the Eastern States Petroleum Co. at Houston is 100 per cent preexpropriation government-owned crude, comes largely from properties seized from United States and British companies.

Oil Discovery in Brazil

News dispatches reaching this country last week from Rio de Janeiro, Brazil, reported discovery of oil in Bahia State at Lobato in an area belonging to the navy department. The dispatches did not reveal whether the discovery was in substantial quantities or of a superficial nature such as have occurred frequently in exploration of Brazil. The test in which the discovery was reported was bottomed at approximately 600 feet.

Programs and Meetings

Much Interest Being Shown In Kilgore A.P.I. Meeting

Considerable interest in the East Texas field has developed with respect to the discussion of "Gas Lift as a Production Method in the East Texas Field" which will be presented by W. N. Rees, of Atlantic Refining Co., to the East Texas chapter of the American Petroleum Institute, Tuesday evening, February 7, in the high school auditorium at Kilgore, Tex.

With the decline of bottom-hole pressure in the field and the consequent necessity of installing some form of artificial lift, the question of whether gas lift is adaptable to East Texas conditions has been revived. There has been considerable development in the art of gas lift within the past few years. Flow-valves, bottom-hole intermitters and other devices used in connection with gas lift in East Texas have caused many operators to review the subject.

Mr. Rees has had much experience with gas lift in the field over a period of years and has over 100 wells producing by this method under his supervision. The paper will deal with the subject from a practical application standpoint and will not discuss theories.

The meeting will start promptly at 8 p.m. and in addition to the discussion a short movie showing the operations of an oil company will be shown through courtesy of Sun Oil Co. At the conclusion of the discussion, a program of entertainment has been provided. The usual A.P.I. dinner will be held at the Kilgore Hotel, beginning promptly at 6:15 p.m. W. S. Morris, secretary-treasurer, says the dinner has been sold out and no further reservations are being accepted.

Indiana Discussing Plan to Increase Gasoline Tax

A four-point program to revolutionize the motor vehicle fee system of Indiana was agreed upon tentatively at a caucus of Democratic members of the legislature with Governor M. Clifford Townsend. The plan would reduce passenger automotive registration fees to $1 a year, increase gasoline tax from 4 to 5 cents, and rebate approximately $400,000 which has been paid by passenger car owners for 1939 registration plates.

The Indiana Independent Petroleum Association is opposing the bill, asserting that "as the tax is now motorists are driving between Michigan and Illinois using the Indiana roads without buying a drop of gas in Indiana—paying no tax! With Illinois and Michigan having a 3-cent tax people would drive to these states, as well as Ohio, whose tax would be 1 cent under Indiana, to purchase gas."

Happened at I.P.A.A. Meeting

In the January 5 issue, "High Points in 1938," it was stated that Col. E. O. Thompson conveyed a message from President Roosevelt to annual A.P.I. meeting in Tulsa, suggesting refining operations be brought under Interstate Oil Compact Commission." This should, of course, have read "annual I.P.A.A. (Independent Petroleum Association of America) meeting."

Federal Policies Criticized By Frank Phillips

LINCOLN, Neb.—Frank Phillips, president of Phillips Petroleum Co., said cessation of government "pump priming," reduction of public debt, and lifting of "restrictions" on industry would put the United States back on the "highroad to permanent prosperity."

Speaking before an estimated 400 at the annual Lincoln Chamber of Commerce banquet, Mr. Phillips said, "We have primed the pump long enough, now it is time to fix the pump by removing the shackles from industry, by encouraging rather than discouraging private enterprise."

Mr. Phillips, a native of Greeley, Neb., held up Nebraska as an example of government economy. He said, "The governors of other states and the New Dealers on the Potomac might well come to Nebraska for a few pointers on how to run a government."

A.P.I. Pacific Coast District Los Angeles Program

H. C. Pyle, chairman, announces that the spring meeting of the Pacific Coast district, Division of Production, American Petroleum Institute, will be held on Tuesday, April 11, in the Biltmore Hotel, Los Angeles. Committees appointed to handle the details follow:

Program Committee.—Frank Morgan, chairman, Richfield Oil Corp.; W. H. Farrand, Texas Co.; Wendell M. Jones, Petroleum Equipment Co.; Paul E. Lehr, Shell Oil Co.; E. K. Parks; Joe Robinson, Union Oil Co.; J. H. Sargent, Kettleman North Dome Association; F. R. Schmieder, Shell Oil Co.

Arrangements Committee.—W. L. Heater, chairman, Baroid Sales Co.; R. P. McKey, Petroleum World; J. W. McPhee, Lane-Wells Co.; Taber Muller, A. O. Smith Corp.; Warner Parker, Oil Well Supply Co.; J. W. Schmid, Republic Supply Co. of California; F. R. Schmieder, Shell Oil Co.; Alvin Zwernaman, Axelson Manufacturing Co.

An all-day session will be followed by a dinner meeting.

Eastern District Program of Institute at Pittsburgh

Christy Payne, Jr., chairman, announces that the spring meeting of the eastern district, Division of Production, American Petroleum Institute, will be held on Tuesday and Wednesday, April 4 and 5, in the William Penn Hotel, Pittsburgh, Pa. The following committees have been appointed to handle the details:

Program.—D. T. Ring, Ohio Fuel Gas Co., Columbus, Ohio, chairman; O. W. Van Petten, Columbian Carbon Co., Charleston, W. Va.; J. J. Schmidt, East Ohio Gas Co., Cleveland, Ohio.

Registration.—John A. Thompson, Belmont Quadrangle Drilling Corp., Bradford, Pa., chairman.

Arrangements.—T. H. Myers, Carnegie Natural Gas Co., Pittsburgh, Pa., chairman.

CALENDAR

February

KANSAS OIL MEN'S ASSOCIATION, twenty-fifth annual convention, Hotel Boadview, Wichita, Kans., February 13-14.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Engineering Societies Building, New York, Feb. 13-16.

LIQUEFIED PETROLEUM GAS ASSOCIATION, INC., annual meeting, Hotel Biltmore, Oklahoma City, Okla., February 20-22.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS AND LOUISIANA ENGINEERING SOCIETY, joint meeting, St. Charles Hotel, New Orleans, La., Feb. 23-25.

NORTH TEXAS OIL AND GAS ASSOCIATION, annual meeting, Wichita Falls, Tex., Feb. 25.

NATIONAL ASPHALT CONFERENCE, Los Angeles, Calif., week of February 27.

March

AMERICAN SOCIETY FOR TESTING MATERIALS, committee week and regional meeting, Deshler-Wallick Hotel, Columbus, Ohio, Mar. 6-10.

INTERNATIONAL ACETYLENE ASSOCIATION, 39th annual convention, Houston, Tex., Mar. 8-10.

WELDING CONFERENCE AND SHORT COURSE, University of Oklahoma, Norman, Okla., Mar. 9-10.

INDIANA INDEPENDENT PETROLEUM ASSOCIATION, spring convention, Hotel Severin, Indianapolis, Mar. 14-16.

AMERICAN PETROLEUM INSTITUTE, spring meeting of Southwestern District Division of Production, Plaza Hotel, San Antonio, Tex., Mar. 16-17.

WESTERN PETROLEUM REFINERS ASSOCIATION, annual meeting, San Antonio, Tex., Plaza Hotel, Mar. 20-22.

SOCIETY OF EXPLORATION GEOPHYSICISTS, annual meeting (joint meeting with A.A.P.G. March 22), Oklahoma City, Huckins Hotel, March 21-23.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, 24th annual meeting, Skirvin Hotel, Oklahoma City, Okla., Mar. 22-24.

April

AMERICAN CHEMICAL SOCIETY, Baltimore, Md., April 3-7.

AMERICAN PETROLEUM INSTITUTE, spring meeting of eastern district, Division of Production, William Penn Hotel, Pittsburgh, Pa., April 4-5.

AMERICAN PETROLEUM INSTITUTE, spring meeting of Pacific Coast district, Division of Production, Biltmore Hotel, Los Angeles, Calif., April 11.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Hotel Cleveland, Cleveland, Ohio, April 13-14.

AMERICAN PETROLEUM INSTITUTE, Division of Production, Mid-Continent district, Skirvin Hotel, Oklahoma City, Okla., April 18-19.

OIL-WORLD EXPOSITION, Houston, Tex., April 24-29.

May

PETROLEUM ELECTRICAL SUPPLY ASSOCIATION AND PETROLEUM INDUSTRY ELECTRICAL ASSOCIATION, Rice Hotel, Houston, Tex., May 2-4.

NATURAL GASOLINE ASSOCIATION OF AMERICA, Hotel Tulsa, Tulsa, Okla., May 3-4-5.

AMERICAN PETROLEUM INSTITUTE, ninth midyear meeting, Roosevelt Hotel, New Orleans, La., May 15-18.

NATURAL GAS SECTION, A.G.A., annual meeting, Tulsa, May 8-11.

WORLD AUTOMOTIVE ENGINEERING CONGRESS, sponsored by S.A.E. for New York (May 22-26), Indianapolis (May 20), Detroit (May 31-June 2), San Francisco (June 6-8), May 22-June 8.

NATIONAL ASSOCIATION OF PURCHASING AGENTS, annual convention (Oil Company Buyers' Group), Fairmont Hotel, San Francisco, Calif., May 21-25.

June

PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION, Hotel Hershey, Hershey, Pa., June 15-16.

ENGINEERING and OPERATING

In This Issue

NORTH TEXAS WATER-FLOOD PROVES TO BE HIGHLY SUCCESSFUL
By D. H. Stormont ..... *Page 34*

Water-flooding operations at a shallow lease in the vicinity of Burkburnett, Tex., have been watched with much interest during the past two years because at no other place in the state has this method of secondary recovery been as thoroughly tested. A review of practices followed and results obtained is presented which shows the most important features of this procedure for producing oil on this property.

SAFETY—GUARD PROTECTS MEN FROM JACKSHAFT ..... *Page 36*

Chain guards on some rigs are built to protect the men from flying parts in case the chain breaks, but they do not cover the shafts. On one rig the men have built a small guard rail from 1-inch pipe.

LOW TEMPERATURE HYDROMETER TEST FOR LIQUEFIED GASES
By W. M. Schaufelberger ..... *Page 37*

Specific gravity determinations on liquefied petroleum gas stocks have been run with a bomb. This paper covers the development of a rapid method for making specific gravity tests with a hydrometer.

NEED FOR MORE COMPLETE DATA ON FOULING OF HEAT EXCHANGERS
By W. L. Nelson ..... *Page 40*

Tabulation of commercial exchangers disclosed discrepancies existing between the computed and actual transfer data. This indicates that a closer study of applied heat transfer is necessary.

CATALYTIC ISOMERIZATION OF HYDROCARBONS UNDER PRESSURE
By A. D. Petrov, A. P. Meschcheryakov, and D. N. Andreev ..... *Page 42*

Modern refining practices for the preparation of aviation motor fuels of exceptionally high octane value require the study of catalysis; the authors here report work in isomerizing normal heptane, normal octane, and alpha-hexene, under pressure, using a catalyst.

MODERNIZATION OF REFINERY TO MEET CHANGE IN MARKET DEMAND
By J. J. Loudermill, J. L. Gaskell, C. H. Alberding, and B. J. Flock ..... *Page 46*

The abundance of fuel oil on the market indicates that refineries may profit by adjusting the production nearer to the demand. Without discontinuance of service, Louisville Refining Co. has installed coking equipment, which by selective cracking enables the refiner to produce fuels which can be marketed to advantage on a depressed market.

OPERATING IDEAS ..... *Page 47*

PROBLEMS FROM READERS—*By L. G. E. Bignell* ..... *Page 49*

QUESTIONS ON TECHNOLOGY—*By C. K. Francis, Ph.D.* ..... *Page 51*

North Texas Water-Flood To Be Highly Successful

Highly successful results are being obtained from water-flooding an old depleted field in North Texas. The flood, under way since June, 1936, has yielded a recovery of over 750 bbls. of oil per acre to date, based on the combined area of both sands involved, and before the project is abandoned it is estimated that 1,000 bbls. per acre is yet to be produced. The project is being carried out on the Hardin lease, owned by Ed Peterson and J. A. McCarty of Wichita Falls, Tex., in the old Burkburnett field southwest of that city.

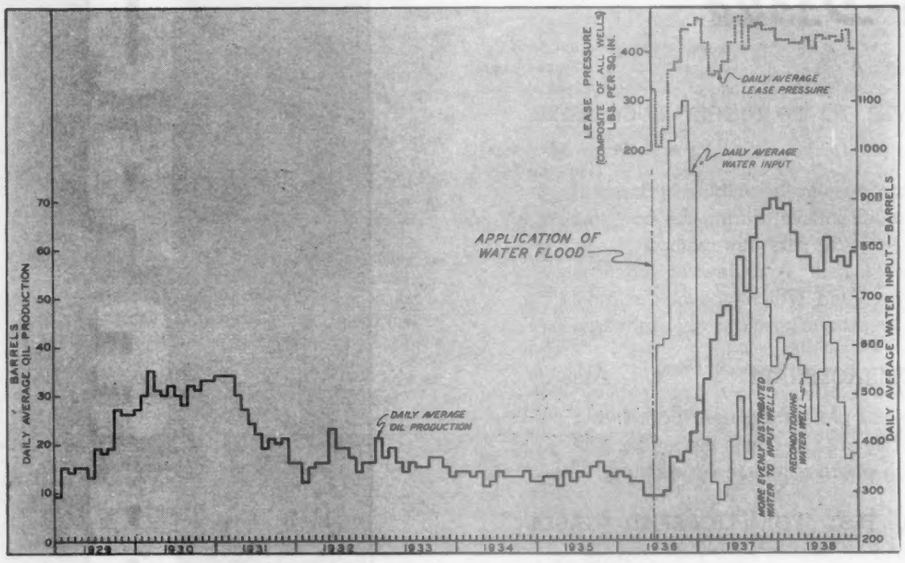


Fig. 1—Record of oil production, water input and pressure

A summary of their operations since the inception of the flood shows that at the time the flood was initiated daily production from the lease was about 10 bbls. This was increased to 23 bbls. daily by the end of 1936; averaged 52 bbls. daily in 1937 and 60 bbls. in 1938. (See Fig. 1.) Total production from the lease for the two and one-half years was over 43,000 bbls. Assuming that the lease continued to produce at the rate prior to the flood (10 bbls. daily) would have resulted in only some 9,100 bbls. being produced in this period. Thus the flood has caused at least some 570 bbls. of additional oil per acre to be recovered from a depleted field that otherwise might have been abandoned.

To obtain this quantity of oil a total of about 550,000 bbls. of water has been injected to date. At the outset some 400 bbls. per day was injected but input was rapidly stepped up to 1,100 bbls. by November, 1936, and at the end of the year was around 950 bbls. daily. During 1937 total water input was over 177,000 bbls. and in 1938 was 191,625 bbls.

Relation between rate of water input and oil production is shown in Fig. 1. The large rate of injection at the early part of the flood caused production to rise only slightly at that time. In the first months of 1937 when water input was less than half of the 1936 peak, oil production continued to gain. Later in the year when the rate of injection was again stepped up, oil production likewise rose to its peak of 70 bbls. daily. During the first half of 1938 when water input was steadily declining, the production curve declined almost in proportion. During the latter part of the year, rate of water injection was increased and then decreased. The oil production curve followed the input rate in general trend, but did not fall off in proportion when water input was decreased late in 1938. Dividing total water input to date by oil production since June, 1936, shows that for every 12 bbls. of water injected 1 bbl. of oil was produced.

Main factor in regulating the rate of water injection has been the individual well bottom-hole pressures, which must not be built up too high as channeling or bypassing of the less permeable sections would result. The monthly lease pressure, average surface pressure of all wells, was around 320 pounds per square inch at the start of the flood. The pressure rapidly built up to 470 pounds during the latter months of 1936 due to high rate of water injection, then declined to about 350 pounds as the input was decreased in the early months of 1937.

A peak pressure of 475 pounds was established in July of that year when water injection was doubled. In September water input was boosted some 340 bbls., to over 700 bbls. daily, but the lease pressure was raised only 50 pounds. Injection rate was increased another 100 bbls. daily in the following month but again there

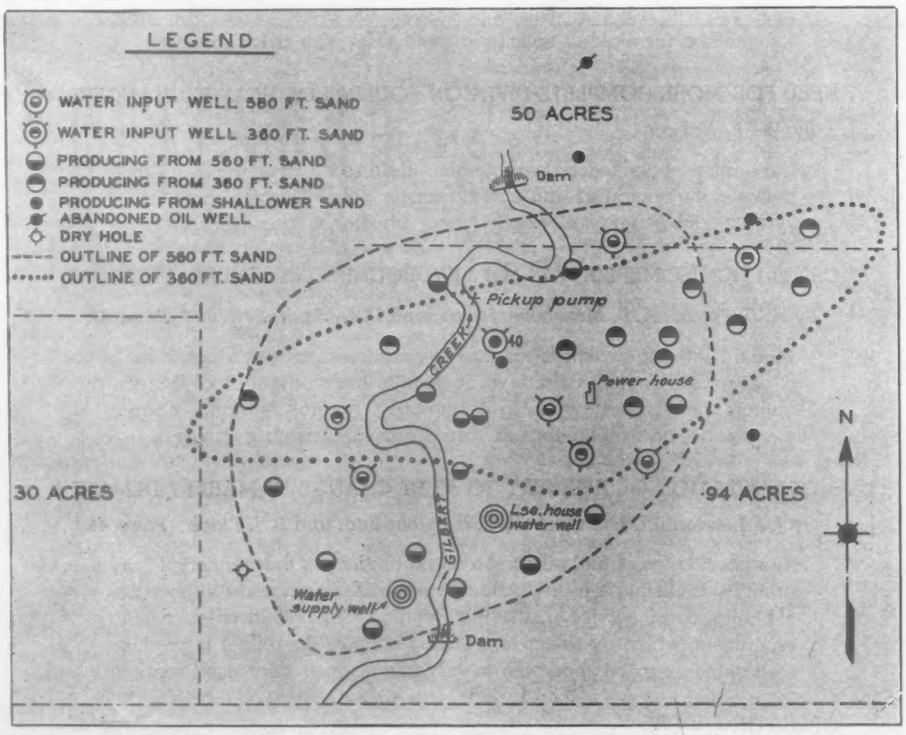
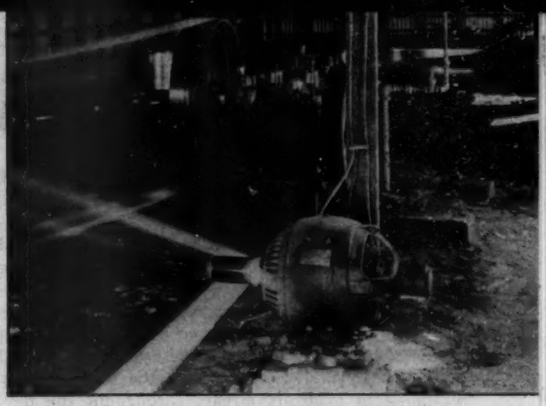


Fig. 2—Location of input and producing wells. No. 40 is a combination well which produces from the 580-foot sand and also serves as water input for the 360-foot sand

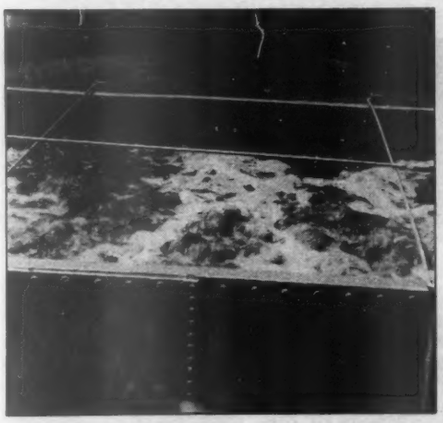
Proves

By D. H. STORMONT



Interior of central power showing band wheel, one injection pump and generator for supplying all lease power requirements

was only a small change produced in the lease pressure. Since then the lease pressure curve has more or less leveled off despite the fact rate of water injection has been cut almost in half, indicating the flood has been completely distributed throughout the pay horizons and an effective drive is taking place.



Back-washing filter bed with water and compressed air to remove sediments deposited in the course of water treatment

There are four producing sands on the lease; 240-foot, 360-, 480- and 560-foot, but only the 360- and 560-foot pays are being flooded. The deepest sand is the most prolific of the group and extends over a wider area, containing some 40 acres and is from 10 to 12 feet in thickness. The 360-foot sand is about 20 acres in extent. General boundaries of the two sands, which have been producing since 1918, are outlined in the accompanying Fig. 2. In general, the flood was started in a line drive from the northwest to the southeast, dividing the producing trend in half and driving to both sides.

All old producers in the two sands, which were drilled prior to the Railroad Commission spacing rule, were cleaned out and utilized in the flood—thus there is an uneven spacing of wells. Each of the pays contains four input wells, the 560-foot sand containing 15 producers and the 360-foot, 11 wells. Well No. 40 (see Fig. 2) is a combination well, producing from the 560-foot sand through the tubing, with water being injected into 360-foot pay through the annular space between the tubing and casing. All wells in these sands are pumped from the one central power, in addition to four producers in the 240- and 480-foot pays.

The eight key wells were spaced throughout the lease to give the best possible water distribution allowed by the lack of uniformity in the producing pattern. In each case new wells were drilled and the pipe was set and cemented into the sand approximately two feet. Most of the wells were completed with only 2-inch tubing being left in the hole to act as the water conductor to the sand. This was accomplished through the use of cable tools, drilling an 8-inch hole into the top of the sand and then reducing the hole to 6-inch and continuing to drill through the sand body. All of the 6-inch hole was then filled to the shoulder with a sand tamp. The tubing was run with a swedge on bottom to bring same out to a short 7-inch O.D. regular shoe and seated.

Cementing Methods

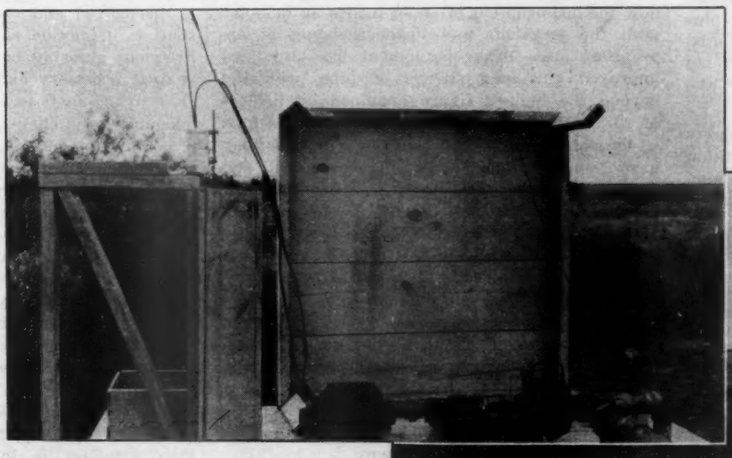
Ten sacks of cement were placed at the seat through a string of 1-inch pipe which had been run through the annular space between the tubing and the wall of the 8-inch hole. Much care was taken that the cement was well mixed, free from lumps and yet as heavy as would pass through the one-inch pipe. After the usual setting time required for cement, the string of 1-inch was then run on the inside of the tubing with open end so that the deposited sand might be circulated from the 6-inch hole. Filtered water under high pressure from the plant discharge pump was used for this purpose. In the string of 2-inch tubing and above the cement level there was placed a left-hand connection that would enable the upper portion of the string to be salvaged at some future date. All such water strings were anchored at the surface in order to maintain some tension of the strings. The operators have found that it is advisable not to shoot and clean the input wells.

Periodically these wells will record pressures in excess of their usual requirements, indicating an accumulated deposit of foreign matter on the walls of the sand. These sluggish wells are restored to their normal operating condition at a small cost through use of the 1-inch run inside the 2-inch tubing to the sand. This time the bottom of the 1-inch is closed, but lateral holes in the lower end of the bottom joint permit water to be jetted against the walls of the pay, again using the discharge pumps to supply the necessary pressure. This procedure, of course, is not as effective as when there is a shot-hole in the sand. In some cases when there is a sudden release of applied surface pressure, there will be a back flow from the well which brings about self cleaning.

Water for the flood is obtained mainly from a water well sunk to a depth of 16 feet near Gilbert Creek, which has been dammed to impound some 500,000 bbls. of water. The well is cased with a 7-foot conduit set in a quicksand and gravel bed and is capable of producing around 1,000 bbls. of water daily, the water being fed from the creek bed and passing through approximately 50 feet of gravel and sand (which acts as a natural filter) before reaching the well. The third water source is the salt water knocked out of the produced crude at the central tank battery. This is run to a nearby earthen pit where it is picked up by a motor-driven centrifugal pump for treatment and filtering. Some 125 bbls. of salt water is being "recycled" daily at present and as the project becomes older the amount will of course increase in volume. No trouble has been experienced in keeping down the fluid level of the producing wells as the pumping jacks are now operating on slow motion and short strokes.

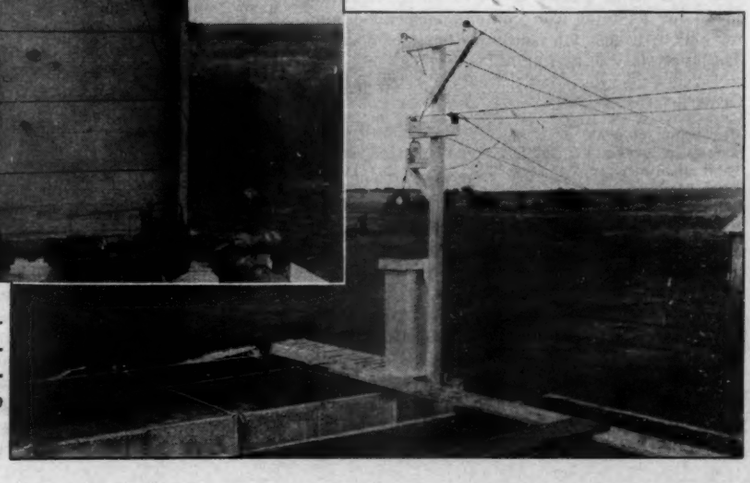
Generator and Pumps

All power for the motor-driven centrifugal water pumps and lease uses is supplied by a 6 kw., 110 d.c. volt, 48 amp. generator, driven by a lineshaft take-off from the 35 hp, gas engine used to drive the power, air compressor and water input pumps. The water supply pump motors are automatically controlled by a float-operated switch in the settling tank of the water treating system; cutting in when the water level in the tank falls low enough to allow the switch to make contact and shutting down when the water level in the tank is again high enough.



Deck of the water well showing electric-driven pick-up pump

Master float-controlled switch at the treating plant in the circuit with the pick-up pump motors. Any desired level in the tanks is constantly obtained through use of this switch



Under present operations the motors operate for about two hours and then shut down for one hour.

Water treatment and filtering is accomplished in a battery of three tanks. In the first or mixing tank, incoming water, both fresh and salt, receives a solution of alum, copper sulfate and lime which is constantly fed from a barrel containing the chemicals in solution. These are batch mixed once daily and the flow from the barrel is regulated to a steady stream throughout the day. Proper distribution of the chemicals in the tank is accomplished by means of a "wiggle box" running the length of the tank. The chemicals enter at the higher end and through an arrangement of baffles trickle to the lower end of the trough. The treated water then flows the length of the tank, around a baffle board and through an outlet into the settling tank.

Settling and Filtering

In this tank, velocity of the water is reduced, allowing the floc formed by the alum to settle out and catch all finely divided suspended matter. The treated water then gravitates to the filtering basin, passing through a sand and gravel filter bed and into a clear water compartment of the tank. Water from this reservoir is then picked up by the input pump and moved to the injection wells, each of which is equipped with meter for measuring the daily input volume of water and a gauge for recording the pressure on the formation.

There are two types of discharge pumps in service due to variations in the required pressures of individual wells. Two of the higher-pressure wells are served by a triplex vertical plunger-type pump of small size, while the remaining input wells are furnished from a 3 by 10-inch horizontal duplex power-driven pump of lesser working pressure. Both, however, are flat-belt connected to the above-mentioned lineshaft. All wearing surfaces of the inner parts of each pump are of brass material.

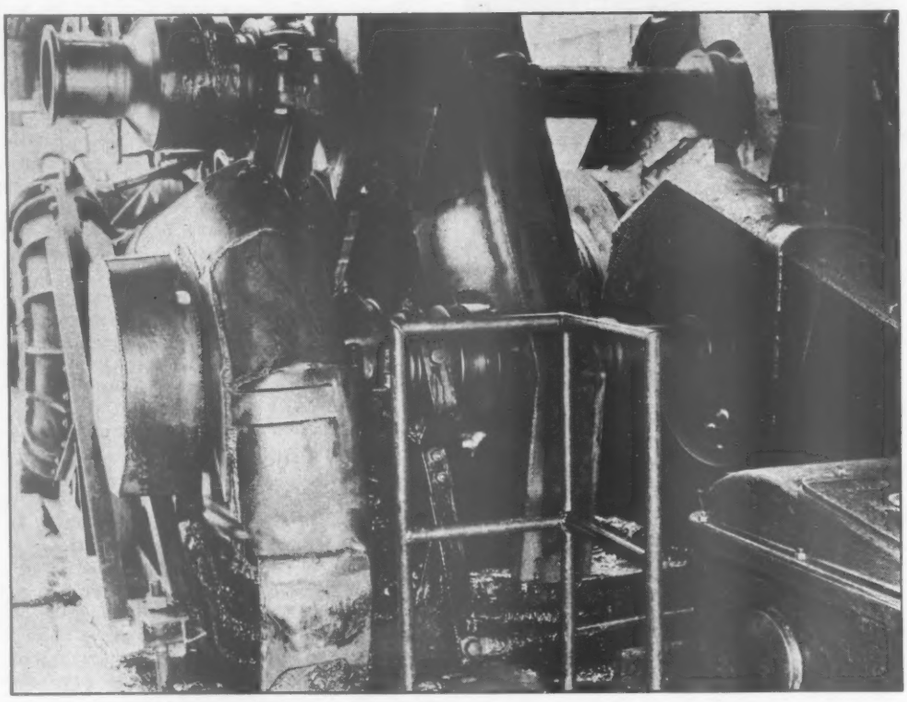
Facilities for periodically cleaning the filter bed of the floc and sediments deposited there consist of an 8- by 3-foot compressed air chamber, air compressor, belt-driven by the gas engine and necessary connections. The pressure supplied by compressed air together with the reverse flow of water taken from the discharge pump, backwashes the filter beds and the action thoroughly agitates and cleans the bed. The back-wash water then flows out of the tank through a connection at the top into a sediment box. This water, plus sediments drained from the bottoms of the mixing and settling tanks, is then run to an old slush pit. Very little water is lost through the back-wash.

A recent analysis of the treated water shows that it is being treated to an excellent condition in so far as total iron content, suspended matter and hydrogen ion concentration is concerned. The analysis was as follows:

	Gr. per gal.
Calcium carbonate	11.6
Calcium chloride	128.8
Magnesium chloride	33.2
Sodium chloride	543.4
Total alkalinity	11.6
Total hardness	173.6
Total solids	966.69
Suspended matter	.62
Loss on ignition	.62
Total iron	0.00
pH	7.7

The Peterson and McCarty flood, which has been under the control of S. R. Rugeley, their superintendent, of Wichita Falls, is the only flood under way in that area at present. Their second such project is in the stage of construction and in making preliminary tests for a flood in the old Peterson pool of Archer County. Also, Bell Oil & Gas Co. has received a permit from the Railroad Commission to flood a small lease near that of Peterson and McCarty, in what is known as the Texhoma field. This company plans to use water from wells drilled in the Red River channel.

SAFETY — Pipe Guards for Rotary Jackshaft



The design of rotary drilling equipment has been constantly improved since the introduction of this method at the turn of the century. From rigs using 3-inch line and drum-shafts and one brake flange, hoists have been developed until now the drumshaft is often 10 inches in diameter with the jackshaft and lineshaft being of appropriate size. Brake equipment has also been improved and long strings of pipe, weighing beyond the highest figure imagined by drillers of 20 years ago, are now being handled safely.

Part of the credit is due to the drillers as they have improved along with the equipment and most drilling machinery today is being used, and not abused.

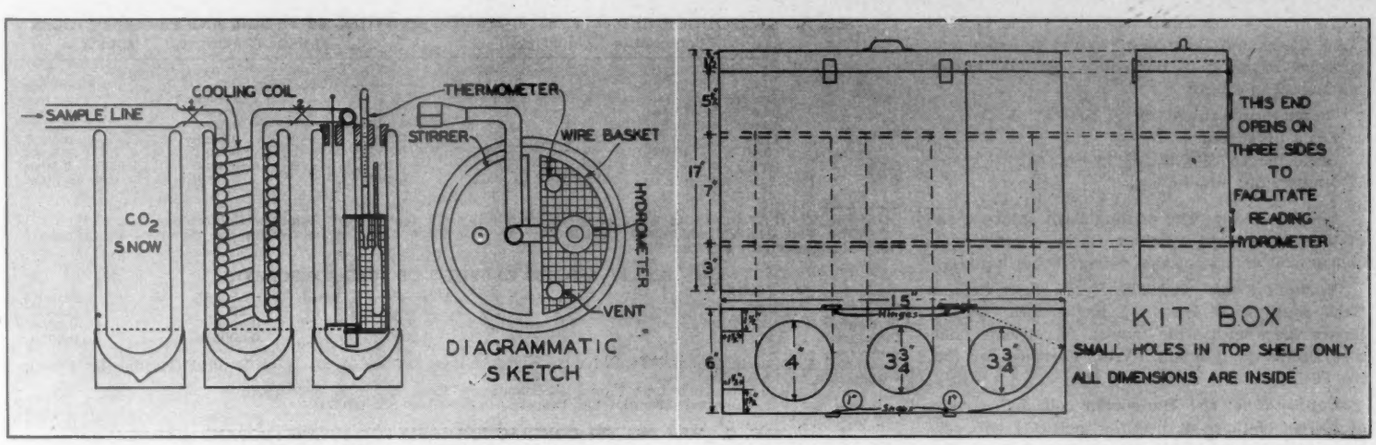
The older rigs were designed for assembly on the drilling site and the rigging up was a strenuous and dangerous task. With the development of heavier trucks capable of carrying a completely assembled drawworks, it was evident to contractors and drillers that unitizing the drawworks would not only eliminate some of the danger accompanying the rigging up but, over a period of time, it would more than pay for the cost of this remodeling. Hoist manufacturers also started unitizing their equipment.

In a shop-unitized rig, the installation of chain-guards was often difficult as the original design of the machinery did not include the possibility that some day it would be completely enclosed. For this reason, shafts and clutches were left open on shop-built rigs while the new factory fabricated models were practically completely enclosed, with trap-door provided for greasing.

Above is a large rig which has been unitized in a shop. The clutch and clutch yoke on the jack-shaft have been left open for inspection, repair and greasing. While drilling, the lineshaft is disengaged and does not turn but the jack-shaft is in motion as it drives the rotary table. Frequent greasing of the brasses on the clutch yoke is necessary and the men frequently come close to the shaft to observe the condition of the machinery and chains. To prevent the possibility of coming in contact with the shaft and having a piece of clothing entangled, the men on this rig designed the small guard of 1-inch pipe which blocks the space between the engine and rotary chain-guard. It can be easily removed when the machinery has been shut down for repairs.

The photo is taken from the side of the shed ordinarily occupied by the lazy bench where the men rest, change clothes, and eat their lunch: the guard prevents the men from getting too close to the turning shaft when they are not thinking about danger.

The hydraulic brake, seen in the background at the left of the picture, was designed to eliminate wear on the brake bands by substituting the resistance to flow of a fluid for brake friction. The brake is used only to completely stop the turning of the drum. The hydromatic brake prevents the conventional brakes from becoming excessively hot and slipping and also takes much of the work from the driller. He is, therefore, fresher and better able to act in emergencies.



Specific gravity kit for liquefied petroleum gases designed to facilitate inspection necessary in making tankcar shipments

Low Temperature Hydrometer Method for Liquefied Gases

By W. M. SCHAUFELBERGER
Standard Oil Co. of California*

This paper covers the development of a rapid method for the determination of the specific gravity of liquefied petroleum gases by the use of a hydrometer at low temperatures and at atmospheric pressure.

In the past, specific gravity determinations on liquefied petroleum gas stocks have been run by a bomb weighing method such as described by the Natural Gasoline Association of America in the April 6, 1932, issue of National Petroleum News. This method necessitated the service of a laboratory man and required from 30 to 60 minutes' time.

A rapid method such as developed here is especially desirable when loading tankcars, since the I.C.C. regulations specify that the maximum filling volume be based upon a representative gravity of the contents of the car. A gravity determination must therefore be made simultaneously with the final adjustment of the level in the tankcar and it is impractical to hold up the loading crew for a lengthy laboratory test.

Method

The procedure is given at the end of this paper. The method is essentially the same as the standard A.S.T.M. gravity test by hydrometer. Samples must of course be cooled to a sufficiently low temperature to prevent weathering. Cooling is accomplished by passing the stock through a coil immersed in a propane bath in the case of butane stocks and in a CO_2-propane bath in the case of propane stocks. By substituting an unsilvered vacuum flask for the hydrometer jar, the temperature rise of the precooled stock is sufficiently retarded to permit accurate temperature and gravity readings.

Standardization was effected by establishing low-temperature specific gravity curves with hydrometers and extending these curves to the 60° F./60° F. specific gravity values determined by the bomb weighing method shows the curves for the six experimental stocks together with a plot of Dana, Jenkins, Burdick, and Timm's data for propane, isobutane and normal butane. The low-temperature determinations were made with two different hydrometers and with a chainomatic Westphal balance. The data obtained with these three instruments checked very closely. The 60° F./60° F. specific gravities were checked by three experienced operators and by calculation from fractional analysis.

The physical constants used in calculating the specific gravities from fractional analysis are shown in an accompanying table which gives the specific gravity values for pure propane, isobutane and normal butane published by (1) the California Natural Gasoline Association; (2) Dana, Jenkins, Burdick and Timm, and (3) Van der Vet. References to the original articles are given in the footnote to the table. It will be seen that the California Natural Gasoline Association values are nearly averages of the other two. Van der Vet has shown that propane and butane contract in volume upon mixing, and that this contraction effect may be expressed as a function of composition, in the course of applying this correction in the specific gravity computations, the California Natural Gasoline Association values are found to be in best agreement with bomb gravity determinations.

Preparation of Conversion Tables

In order to prepare detailed conversion tables, the accompanying curves were used to construct a large-scale cross-plot showing observed versus 60° F./60° F. specific gravity curves at 1° F. intervals. From this cross-plot the "Specific Gravity-Temperature Correction Tables" attached to the procedure were prepared. The form of these tables is identical to the standard A.P.I. gravity-temperature correction tables used throughout the oil industry.[1]

Accuracy

If the procedure is closely followed and the hydrometers and thermometers are properly calibrated, it is believed that specific gravity determinations will be accurate to one point in the third decimal place (±0.001).

Procedure for Determining the Specific Gravity of Liquefied Petroleum Gases by Means of a Hydrometer

Apparatus

Hydrometers. The hydrometers shall conform to the following specifications: *(a)* Specific gravity scale 0.580 to 0.600 (60°F./60°F.); *(b)* specific gravity scale 0.600 to 0.620 (60°F./60°F.). Material: Glass suitable for use at temperatures as low as —70° F.

Scale divisions: 0.001 specific gravity. Each fifth scale division shall be denoted by a line encircling the stem. Graduations shall be numbered at each multiple of 0.01 of specific gravity.

Accuracy: Better than 0.001 specific gravity.

Scale length: 2 to 3 inches. O.D. of stem: three-sixteenth inch to one-quarter inch.

Hydrometer length: 6 to 8 inches.

The material used in sealing the weighting substances should be capable of withstanding a temperature of —70° F. without cracking. Bottom tip of hydrometer should be cone shaped.

A standardized hydrometer should be kept on hand and new hydrometers should be checked against this standard before they are placed in service.

Thermometer. The thermometer used shall

*Part of paper presented at meeting of California Natural Gasoline Association at Los Angeles, Calif.

[1]These tables may be procured by writing either to the California Natural Gasoline Association, 510 West Sixth Street, Los Angeles, Calif., or The Oil and Gas Journal, Tulsa, Okla.

conform with specifications for A.S.T.M. D 97-34 "Low Cloud and Pour Test" except that the temperature range is to be reduced without changing the scale length.

Temperature range: 0° F. to —75° F.
Scale divisions: 1° F.
Scale length: 2½ to 3½ inches.
Immersion: 4½ inches.

Cooling Bath. The cooling bath shall consist of a Pyrex glass vacuum flask, containing a copper coil and a suitable refrigerating liquid.

Vacuum Flask. (a) The Pyrex glass vacuum flask shall be at least 2½ inches I.D. by 11½ inches deep with wide mouth. (American Thermos Bottle Co. 1 quart. Pyrex Thermos Jar Cat. No. 8645.)

Copper Coil (b) The copper coil shall consist of 20 feet of three-sixteenths inch O.D. soft copper tubing wound on a hollow mandrel 2⅛ inches O.D. with adjacent turns touching. The lower end of the coil shall be brought up through the center of the mandrel before winding so that the finished coil will snugly fit the sides of the vacuum flask. This will give plenty of room in the center for introducing CO_2-snow. The top of this coil must be at least 1 inch below the top of the vacuum flask when assembled.

The ends of the copper coil shall not exceed more than a few inches beyond the mouth of the flask. The upstream end shall be connected directly to the sampling line of one-quarter inch iron pipe. The downstream end shall be connected to a one-eighth inch needle valve provided with a connection not more than 2 to 3 inches long.

Refrigerating Liquid. (c) The choice of refrigerating liquid depends upon the vapor pressure of the stock to be tested. For stocks with vapor pressures above 100 pounds absolute at 100° F. a bath of CO_2-snow in propane shall be used. For less volatile stocks a propane bath may be used.

It is essential that the CO_2 be placed in the bath before adding the propane and that sufficient CO_2 be present at all times to produce a viscous mixture. The bath shall completely cover the copper cooling coil.

SEC. A. COMPOSITION AND 60° F./60° F. SPECIFIC GRAVITIES OF BUTANE AND PROPANE STOCKS

	Composition (Liquid %)				Specific Gravity (60° F./60° F.)		
	1	2	3	4	5	6	7
					Calculated		
	N-butane	I-butane	Propane	Methane and ethane	C.N.G.A.*	Corrected†	Metal bomb method
1	84.52	15.48	...	....	0.5809	0.5809	0.5805
2	48.64	41.64	9.72	...	0.5684	0.5697	0.5697
3	47.77	37.77	13.85	0.61	0.5650	0.5669	0.5667
4	0.50	49.62	48.95	0.93	0.5357	0.5391	0.5365
5	....	....	98.93	1.07	0.5078	0.5080	0.5080
6	....	....	95.33	4.67	0.5039	0.5038	0.5038

*The C.N.G.A. constants were used in calculating the specific gravities in Column 5.
†The Van der Vet shrinkage factors (see Sec. C) were used for correcting the densities in Column 5 to the values given in Column 6.

SEC. B. SPECIFIC GRAVITIES OF PURE COMPONENTS

	C.N.G.A.	D.J.B.&T.	Van der Vet
N-butane	0.584	0.5851	0.5832
Isobutane	0.564	0.5650	0.5636
Propane	0.509	0.5096	0.5079

C.N.G.A. Bulletin TS-311, "Tentative Standard Method for the Analysis of Natural Gasoline by Fractional Distillation," p. 14 (1931).
Dana, Jenkins, Burdick and Timm, Refrigerating Eng., V. 12, p. 387 (1926).
Van der Vet, Congress Mondial Du Petrole (Paris) B.49 S.2 (1937).

SEC. C. VAN DER VET CONTRACTION TABLE FOR BUTANE-PROPANE MIXTURES*

(Corrections to be Added to Densities Calculated from Fractional Analysis)

Mol % C_3H_8	Correction	Mol % C_3H_8	Correction	Mol % C_3H_8	Correction	Mol % C_3H_8	Correction
5	0.0007	30	0.0032	55	0.0033	80	0.0018
10	0.0014	35	0.0034	60	0.0031	85	0.0014
15	0.0020	40	0.0035	65	0.0028	90	0.0009
20	0.0026	45	0.0036	70	0.0026	95	0.0005
25	0.0029	50	0.0035	75	0.0022	100	0.0000

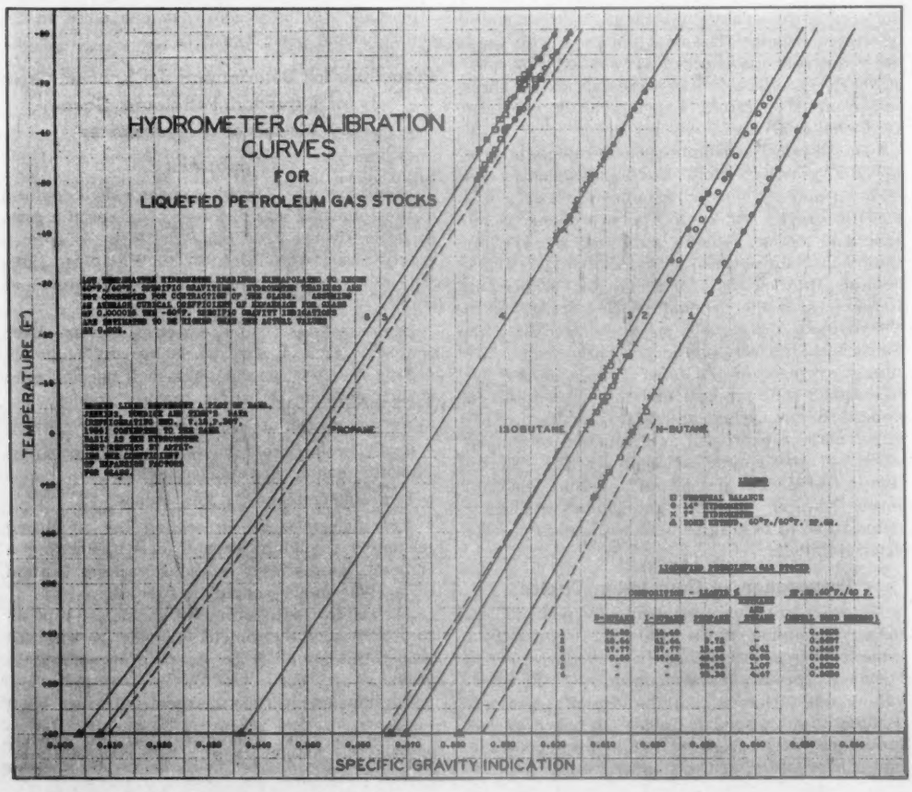
*Applicable particularly to propane-normal butane mixtures.

Sample Flask. The sample flask shall be an *unsilvered* Pyrex glass vacuum flask 2½ inches I.D. by 11½ inches deep with wide mouth (American Thermos Bottle Co. 1-quart Pyrex Thermos Jar similar to Cat. No. 8645, but unsilvered).

Auxiliary Equipment.

The auxiliary equipment shall consist of: *(a)* A tightly fitting cork for the sample flask with holes bored as shown in drawing to fit the thermometer, stirring rod and filling tube. Also a three-sixteenths inch vent hole shall be provided. *(b)* A thermometer. *(c)* A sliding stirring device consisting of a one-sixteenth inch brass rod with a semicircular paddle fastened to the lower end as shown. This stirrer should slide freely in the cork and the semicircular portion should be provided with a five-sixteenths inch hole to slide on the filling tube. *(d)* A filling tube of one-fourth inch O.D. copper tubing reaching to the bottom of the flask. *(e)* A semicircular basket of brass wire screen to protect the hydrometer from breakage. *(f)* An extra vacuum flask to hold a supply of CO_2-snow. *(g)* Rubber tubing for connections. *(h)* Supplies of CO_2 and propane.

Kit. This apparatus shall be assembled in a kit which can be used conveniently.



Procedure

Cleaning. The hydrometer, thermometer, vacuum flask and equipment with which the sample comes in contact must be thoroughly dried before running each test. *Accurate test results cannot be expected if any moistures adhere to the hydrometer.*

Sampling Connections. The sample shall be taken from an appropriate tank or line connection in a manner which will yield representative material. The sampling valve shall have a large opening to prevent vaporization of the material due to drop in pressure through the valve seat. For the same reason, the line connecting with the apparatus shall be short and made up of one-quarter inch pipe or larger.

Precooling. The sampling line shall be purged before opening valve (1) which admits the sample to the cooling coil. A precooling sample of the liquid shall be drawn by opening the sampling valve (2). The sample flask shall be filled to within 1 inch of the stopper. This sample should remain in the flask for one to two minutes to precool the apparatus. It shall then be discarded and the test sample shall be drawn immediately.

Sampling. The test sample shall be drawn over a period of about one minute, bringing the level up to a point where the hydrometer floats freely. The thermometer shall be adjusted so that the immersion mark is even with the surface of the liquid.

Readings. The sample shall be stirred by moving the stirrer through the full depth of the liquid until the temperature becomes uniform. The temperature shall then be read to 1° F. and the gravity shall be read as quickly as possible to 0.001 specific gravity. The sample shall again be stirred and a second set of readings taken. Successive determinations shall be made until three identical 60° F./60° F. gravities are obtained.

Interpretation of Results. The specific gravity corrected to 60° F. shall be obtained from the attached tables. The corrected value will be found opposite the observed temperature in the column headed by the observed gravity.

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Need for Fouling Data on Heat Exchangers

By W. L. NELSON

The following article is an outgrowth of the tabulation of commercial exchangers given on Page 40 of The Oil and Gas Journal of January 12. The tabulation disclosed such discrepancies between computed and actual transfer rates, that obviously something of great importance must be lacking in all of our previous studies of applied heat transfer.

In about 1920 heat transfer began to attract widespread attention and since that date a succession of excellent studies of the effect of such variables as velocity, viscosity, temperature difference across films, etc., have added greatly to our understanding of fundamentals. Scarcely a month passes but what some fundamental study of transfer rates is published by reputable journals. Nevertheless, the problem of designing commercial equipment is still frought with difficulties, and manufacturers and engineers are forced to resort to an examination of existing plant results rather than depend on experimental film transfer rates because the laboratory rates are universally too high. The reason for this discrepancy is that the laboratory tests must be conducted in extremely clean equipment in order to disclose the effect of such variables as velocity and viscosity. What happens in the commercial equipment, is that the heating surface becomes covered with a film of grease or scale after even a few hours of operation and thereafter fails to transfer heat efficiently—and after a few days or months, the actual rate is sometimes no larger than one-tenth of its former clean value.

As long as this situation exists, manufacturers and plant engineers have no alternative except to supply exchangers that contain more than an ample amount of surface because they can never be sure that the worst kind of fouling condition may develop and the exchanger will not be satisfactory. Thus, refiners are forced to buy more exchange equipment than really necessary and the condition will continue to exist until a comprehensive study and cataloging of fouling factors becomes available. In a particular refinery, the situation can be alleviated by keeping a record of exchanger operation between cleaning periods and by tabulating fouling factors, until the fouling conditions for that particular plant are known.

Effect of Velocity and Fouling

For years theory has shown that a high velocity is powerful in increasing the heat transfer rate. However, note Table 1, which shows five exchangers operating on the same stocks but at different velocities. Kerosene is being cooled by means of water in a coil-in-box equipment.

Thus, by theory, velocity should increase the transfer rate by about 175 per cent, whereas in a dirty equipment, it increases the actual rate by only 33 per cent. At least in this instance, the effect of velocity is not as important as some have believed.

However, if the fouling factor of 30, that was used in Table 1, could only be depended upon, the problem would not be a troublesome one. What actually happens is that the fouling factor may vary through a wide range—with results as shown in Table 2. These data are also for a coil-in-box equipment but for a fixed velocity of 1 foot per second for kerosene inside of the tubes.

Thus it requires almost five times as much pipe in a badly fouled box as in a clean new one. These figures should be forceful argument that the box should be kept clean, but the problem is a little bigger than that, because in many instances a fouled condition cannot be avoided due to dirty water, severe scaling or corrosion.

When viscous stocks are cooled, the rates are even lower and in some instances appear to be ridiculously low until they are investigated. The adoption of rates for such stocks is particularly frought with error because engineers have the higher rates that are obtained with other stocks, fixed firmly in mind, and are loath to believe that such low rates can be correct. As an example, consider an exchanger for heating crude oil from 220° to 279° F., by means of tar (viscosity 20 centipoises at 375° F.) which is cooled from 600° to 300° F. The tar is sent through the tubes because of the large volume of crude oil. Several exchangers and coolers are shown in Table 3.

Table 3 indicates that nothing much can be done about the low rates of tar exchangers and coolers. Even the use of water as a cooling agent decreases the transfer rate in this case because the low temperature of the water reduces the film temperature of the tar. However, the use of water does require the use of less surface because the exchanger will operate with a larger mean temperature difference. Note again that the velocity does not greatly increase the rate of heat transfer.

Even viscosity may play second fiddle to fouling in some instances. A comparison of this sort is shown in Table 4. Crude oil exchangers for cooling liquid gasoline, kerosene, gas oil, wax distillate, and cylinder stock are compared under clean conditions and for a degree of fouling amounting to factors of 10 and 30. The temperatures are shown in Figure 1.

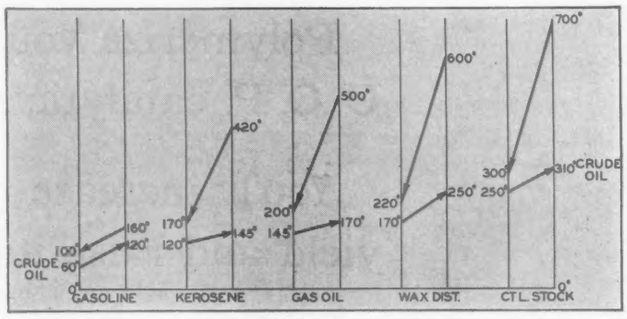


Fig. 1—Temperature in exchange systems of Table 4

Under such exchanger conditions, the viscous stocks have better transfer rates than gasoline, but under severe fouling conditions the rates do not vary greatly.

From the above examples it is apparent that of all of the variables that contribute to the magnitude of the transfer rate in commercial oil exchanger equipment, the extent of fouling is a primary factor which in some cases overshadows other more commonly known variables such as velocity or viscosity. Nor can you blindly say that non-viscous stocks have high transfer rates, because film temperatures, fouling and other variables all contrive to make each heat transfer condition unique.

TABLE 1—KEROSENE COOLERS (WATER IN NATURAL CONVECTION)

	Kerosene velocity	Transfer rate, Clean	Transfer rate, With fouling factor of 30
1	0.5	52	20.3
2	1.0	75	23.1
3	2.0	105	25.3
4	4.0	129	26.5
5	6.0	143	27.0

TABLE 2—EFFECT OF FOULING ON KEROSENE COOLERS

	Fouling factor	Transfer rate
1	none	75.0
2	5	54.4
3	10	42.9
4	20	30.0
5	30	23.1
6	50	15.8

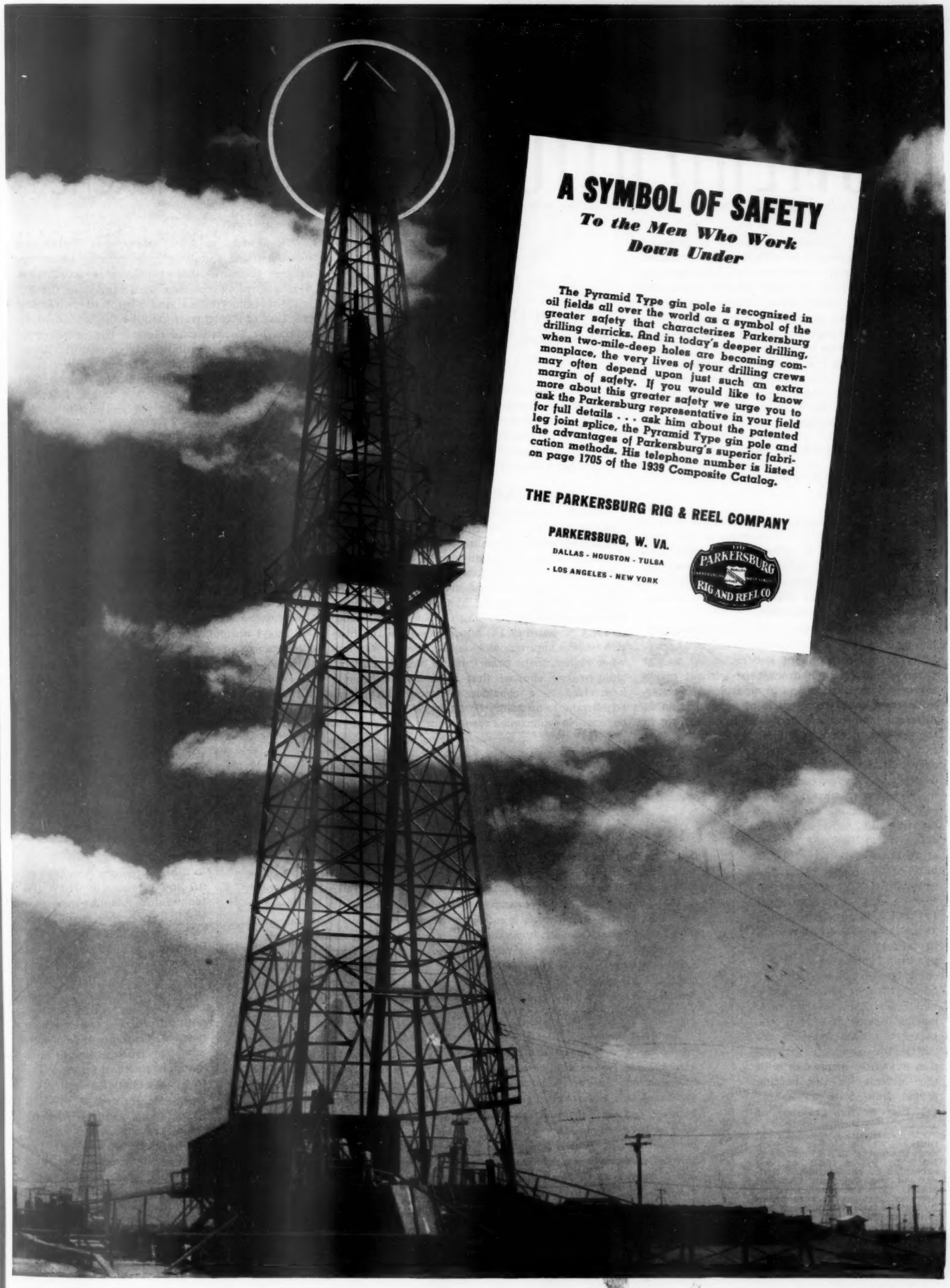
TABLE 3—TAR EXCHANGERS AND COOLERS

	Tar velocity	Shell Material	Shell Velocity	Transfer rate Tar	Transfer rate Crude	Fouling factor	Transfer rate	Surface, per million B.t.u.
1	0.5	Crude	1	14.5	70	0	12.0	470
2	1.0	Crude	2	16.5	116	0	14.45	390
3	0.5	Crude	1	14.6	70	20	9.71	581
4	1.0	Crude	2	16.7	116	20	11.30	500
5	1.0	Crude	6	16.6	500	20	12.10	466
6	0.5	Water*	1	12.9	200	20	9.75	296
7	1.0	Water*	6	12.8	600	20	10.00	289

*60°-120° F.

TABLE 4—CRUDE EXCHANGERS FOR VARIOUS LIQUID STOCKS (SEE FIGURE 1)

	Approx. film temps. Stocks	Approx. film temps. Crude	Transfer rates Clean	Transfer rates F.F.=10	Transfer rates F.F.=30
1 Gasoline	130	105	28.9	22.4	15.5
2 Kerosene	275	170	37.0	27.6	17.8
3 Gas oil	335	195	43.5	30.3	18.9
4 Wax distillate	385	235	52.5	34.4	20.3
5 Cylinder stock	460	300	58.0	36.6	21.2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ISOMERIZATION of Heptane, Octane and Alpha-Hexene

By A. D. Petrov, A. P. Meschcheryakov and D. N. Andreev

Institute of Organic Chemistry, Academy of Sciences, U.S.S.R.*

Among the results of previous work it is interesting to note that isomerization increases with rise in temperature and in the presence of halide catalysts (zinc chloride and aluminum chloride); that normal hexane and normal heptane show an unusual stability and undergo absolutely no change on heating under pressure to 400°-500° for two hours (in the absence of catalysts), and finally that olefinic hydrocarbons tend to shift their double bond from the alpha into the beta position which apparently is the necessary prerequisite for later formation of dimers possessing an iso-structure, e.g.

$$R{\cdot}CH{=}CH_2 \rightarrow R_1{\cdot}CH{=}CHCH_3 \rightarrow R{\cdot}CH{=}CH{-}CHCH_2{\cdot}R_1$$

$$\text{or} \rightarrow R_1{\cdot}CH{=}CH{-}CH{-}\overset{CH_3}{\underset{CH_3}{CH{\cdot}R_1}}$$

N. D. Zelinskii and Levina[3] succeeded even in more or less quantitative conversion at 200° over palladized asbestos of 2,6-dimethyl-7-octene into 2,6-dimethyl-6-octene, while G. Hugel and M. Kohn[4] found that on heating under pressure hexadecene is transformed into dimers $C_{32}H_{64}$ of normal as well as of iso-structure.

The aim of the present work consisted in establishing in principle the possibility or the impossibility of isomerization of low molecular weight paraffin and olefin hydrocarbons without cracking or polymerization and in an attempt to determine the quantitative extent of isomerization at different temperatures and periods of heating in the presence not only of halide catalysts but also in the presence of the usual catalyst for destructive hydrogenation — molybdenum trisulfide.

The experiments carried out by us and reported below showed: (1) That the temperature limit of isomerization is near to that of cracking and especially of polymerization (for olefin hydrocarbons); (2) that it is possible to bring about isomerization of normal heptane to the extent of 20-25 per cent by heating with zinc chloride at 300°-400° for six hours; (3) that normal heptane undergoes isomerization to a marked extent at 420° in the presence of molybdenum trisulfide, the extent of isomerization evidently increasing with the increase in the heating period from 3 to 14 hours; (4) that in the presence of molybdenum trisulfide normal octane is isomerized at 410° and undergoes a very extensive isomerization accompanied, however, by considerable cracking at 440°; (5) that finally, molybdenum trisulfide is even a stronger isomerizing agent than zinc chloride but weaker than aluminum chloride.

*This translation from Zhurnal Obshchei Khimii (Journal of General Chemistry, U.S.S.R., Vol. 5, No. 7, pp. 972-76, 1935) has been submitted by the Petroleum Division of the American Chemical Society. The Petroleum Division, however, assumes no responsibility for the facts and opinions presented in this paper, nor does it necessarily endorse statements made therein. Translated by Process Management Co. Translator's title: "Catalytic Isomerization of Normal Heptane, Normal Octane, and Alpha-Hexene Under Pressure."

Alpha-Hexene

With regard to alpha-hexene, it was found that this hydrocarbon while remaining unchanged on heating up to 300° in the presence of molybdenum trisulfide, begins to polymerize at 350°, the polymerization being quite substantial at 400°. Unlike paraffin hydrocarbons no fractions are formed that boil below the initial hydrocarbon. Oxidation after isomerization (heating for one hour at 400° under a pressure of 140 atmospheres) of the fraction boiling approximately within the limits (somewhat higher, to be exact) of the boiling range of alpha-hexene showed that alpha-hexene became isomerized to a considerable extent into beta-hexene and to an insignificant degree into gamma-hexene. No isohexenes were found.

These data evidently show that destructive hydrogenation (catalytic hydrogenation under hydrogen pressure) has considerable advantages over reforming cracking with regard to the extent of isomerization and also that reforming cracking of straightrun gasoline (accompanied, of course, by formation of olefinic hydrocarbons to some extent) is advantageously carried out in the presence of active catalysts as an isomerization reaction also at lower temperatures for the purpose of reducing the loss of low boiling fractions through side reactions of polymerization of olefinic hydrocarbons.

Experimental Part

The following substances were used in the investigation: (1) Normal heptane from Pinus Jeffrey (California Chemical Corp., San Francisco), boiling at 97.5°-98.2°; d_4^{20}, 0.6857; n_D^{17}, 1.3900. (2) Heptane fraction of Grozny gasoline treated with antimony pentachloride, boiling at 96°-100°; d_4^{20}, 0.7256; n_D^{20}, 1.4075. (3) Normal octane (synthesized by us by the method of Wurtz), boiling at 124°-126°; d_4^{20}, 0.705; n_D^{20}, 1.3998. (4) Alpha-hexene, boiling at 63°-64.5°; d_4^{20}, 0.6760; n_D^{20}, 1.3891. The alpha-hexene was prepared by dehydration of normal hexyl alcohol, according to V. Ipatieff, over aluminum oxide at 350°; the alcohol was synthesized by use from normal butyl bromide and ethylene oxide by the Grignard reaction. The absence in the initial alpha-hexene of the beta-isomer was shown by its oxidation with potassium permanganate by the Butlerov method. In the silver salts of the acids obtained only valeric acid was found. The data of one of the analyses follow:

Sample of silver salt, 0.5700 g.; 0.0297 g. Ag;
Found per cent Ag—52.10; calculated from $C_5H_{10}O_2Ag$—51.64.

The heating was carried out in a high-pressure autoclave of 0.5 liter capacity in which the temperature could be measured inside. The experiments were carried out under a pressure of hydrogen or nitrogen, the reaction products distilled and their constants determined; in case of saturated hydrocarbons they were first treated with sulfuric acid and their content of iso-compounds determined by treatment with antimony pentachloride according to Schaarschmidt (control experiments showed that initial heptane and octane formed no complexes with antimony pentachloride before heating). The data of the experiments with normal heptane (Experiment 1) and with the heptane fraction (all other experiments) are given in Tables 1 and 2.

It is seen from these data that isomerization shown first of all by the widening of the

Catalytic Isomerization

The temperature limit of isomerization of olefins closely approaches that of cracking and especially of polymerization. Molybdenum trisulfide is a stronger isomerizing agent than zinc chloride, but weaker than aluminum chloride. Heptane is isomerized to the extent of 20 to 25 per cent by heating with zinc chloride at 300° to 400° for six hours; in the presence of molybdenum trisulfide it is isomerized at 420°, the extent of isomerization increasing with the increase of the heating period from 3 to 14 hours. Octane is isomerized in the presence of molybdenum trisulfide at 410°; at 440° its isomerization is very extensive, but it is accompanied by considerable cracking. Alpha-hexene remains unchanged in the presence of molybdenum trisulfide on heating up to 300°; at 350° it begins to polymerize and the polymerization reached a substantial extent at 400°. Heating at 400° under 140 atmospheres for one hour results in formation of beta- and gamma-hexene, but no isohexene.

Ability of various alkyl bromides to isomerize on heating under pressure forming alkyl bromides branched to a higher extent (propyl bromide, isopropyl bromide, isobutyl bromide, tertiary butyl bromide, etc.) was shown by A. E. Favorskii (1) in 1903. His researches made it evident that the structure of hydrocarbon molecules remains unchanged only under normal temperature and pressure; at elevated temperatures, however, and especially under pressure and in the presence of catalysts, the molecules of hydrocarbons show a tendency toward isomerization forming increasingly branched isomers. Further, isomerization by acyclic hydrocarbons under normal and elevated pressures was established by the work of Norris and Reuter (2), G. Hugel and A. Szayna (3), G. Hugel and M. Kohn (4), Stratford (5), A. D. Petrov (6), A. D. Petrov and I. Z. Ivanov (7) and others; however, these observations were made under conditions of decomposition (cracking) of normal hydrocarbon chains or those of their polymerization (in the case of olefins).

TABLE 1

Experiment No.	Catalyst—	Temperature	Duration, hours	Initial pressure, atmos.	Boiling temperature after experiment, °C.	d_4^{20}	n_D^{20}	Per cent of isomerization determined by the Scharrschmidt-method
1	5 per cent $ZnCl_2$	300	6	500-H_2	95-100	0.68	1.3904	27
2	5 per cent $ZnCl_2$	400	7	60-H_2	85-101	0.7307	1.4060	18
3	1 per cent $AlCl_3$	220	3	50-H_2	96-100	0.7283	1.4058	8
4	5 per cent MoS_3 + 5 per cent CuO	400	1	60-N_2	96-102	0.7252	1.4050	...
5	5 per cent MoS_3 + 5 per cent CuO	400	7	60-N_2	92-102	0.7247	1.4052	15

TABLE 2

Exper. No.	Catalyst—	Temperature	Duration, hrs.	Initial pressure, atm.	Boiling range of fraction, °C.	First fraction Yield	First fraction Boiling range	First fraction d_4^{20}	Second fraction Yield	Second fraction Boiling range	Second fraction d_4^{20}	Fraction boiling higher than the initial, per cent
6	5 per cent MoS_3	420	3	70-H_2	90-102	11	90-96	0.7191	85	96-100	0.7242	4
7	5 per cent MoS_3	420	7	70-H_2	88-102	19	88-96	0.7109	74	96-100	0.7238	7
8	5 per cent MoS_3	420	14	70-H_2	86-103	20	86-96	0.7147	69	96-100	0.7253	11

boiling range of the initial product actually takes place and its extent is determined by the duration and the temperature of heating. The part played by the catalyst consists apparently only in lowering this temperature (lowering of the "temperature limit" of isomerization). Similar results were obtained by heating of normal octane under pressure as given below; it was found that at the temperature of highest isomerization (440°) cracking takes place to a marked extent. Thus, the temperature limit of isomerization of normal paraffin hydroearbons, at least in the presence of molybdenum trisulfide, is very close to the temperature limit of cracking of these hydrocarbons.

Experiment 1.—Used 60 cc. normal octane, 5 per cent MoS_3; initial pressure of hydrogen, 70 atmospheres; duration of heating at 360°, three hours; the distillation showed that the product remained unchanged.

Experiment 2.—Used 60 cc. normal octane, 5 per cent MoS_3; initial hydrogen pressure, 70 atmospheres; duration of heating at 400°, three hours; distillation and investigation of the product gave the following results:

	Fraction—	Per cent	d_4^{20}	n_D^{20}
1.	117-124°	6.7	0.694	1.3968
2.	124-126°	87.7	0.703	1.3990
3.	126-127°	4.7	....	1.4038
	Losses	0.9		

Experiment 3.—Used 60 cc. normal octane, 5 per cent MoS_3; initial hydrogen pressure, 70 atmospheres; duration of heating at 440°, three hours, distillation and investigation of the product showed:

	Fraction—	Per cent	d_4^{20}	n_D^{20}
1.	30-95°	36.25	0.644	1.3806
2.	95-127°	43.75	0.719	1.4042
3.	Above 127°	7.5	....	.....
	Losses	12.5		

Treatment of the reaction product with the Kattwinkel mixture showed 8 per cent unsaturated and aromatics. After the treatment, the reaction product showed a content of hydrocarbons of isostructure (by the Schaarschmidt method) amounting to 23.6 per cent.

Experiment 4.—Used 50 cc. of normal octane, 5 per cent MoS_3; initial hydrogen pressure, 70 atmospheres; duration of heating at 410°, three hours; distillation and investigation of the product gave the following results:

	Fraction—	Per cent	d_4^{20}	n_D^{20}
1.	50-124°	13.1	0.697	1.3954
2.	124-126°	74.5	0.704	1.3996
3.	126-128°	10.2	....	1.4020
	Residue	1.2	....	.....
	Losses	1	....	

Determination of iso-compounds by the Schaarschmidt method gave 18 per cent.

Experiment 5.—Used 60 cc. normal octane, 5 per cent $ZnCl_2$; initial hydrogen pressure, 70 atmospheres; duration of heating at 410° three hours; distillation and analysis of the reaction products gave the following results:

	Fraction—	Per cent	d_4^{20}	n_D^{20}
1.	37-95°	6	0.642	1.3772
2.	95-124°	12.5	0.695	1.3972
3.	124-126°	75.6	0.704	1.3996
	Residue above 126°	4	....	1.0465
	Losses	1.9		

The content of iso-compounds in the fraction 95-126° was found to be 13.3 per cent.

Experiment 6.—Used 100 cc. normal octane, 5 per cent $AlCl_3$; initial hydrogen pressure, 70 atmospheres; duration of heating at 405-410°, three hours; analysis of the reaction product gave the following results:

	Fraction—	Per cent	d_4^{20}	n_D^{20}
1.	27-95°	11.4	0.628	1.3690
2.	95-124°	12.1	0.697	1.3979
3.	124-126°	59.2	0.702	1.3992
	Residue above 126°	2.8	0.708	1.4024
	Gases and losses	14.5		

Amount of hydrocarbons of iso-structure was found to be 23.3 per cent.

On heating of normal hexene with MoS_3 to 300° for one hour no changes took place.

Experiment 1.—60 g. hexene, 5 per cent MoS_3; initial hydrogen pressure, 40 atmospheres; temperature, 350°; duration, one hour. Investigation of the product showed:

	Fraction—		Per cent	d_4^{20}	n_D^{20}
1.	63.65°	28 g.	56	0.6750	1.3900
2.	65-65.5°	9 g.	18	0.6763	1.3906
	Residue	9 g.	18		
	Losses		8		

Experiment 2.—60 g. hexene, 5 per cent MoS_3; initial hydrogen pressure, 40 atmospheres; temperature, 400°; duration of heating, one hour.

	Fraction—		Per cent	d_4^{20}	n_D^{20}
1.	56-63°	0.5 g.	1	.....	1.3774
2.	63-65°	0.5 g.	1	.....	1.3890
3.	65-67°	18 g.	36	0.6768	1.3915
4.	67-69°	2 g.	4	0.6821	1.3937
5.	Above 69°	26 g.	52	.....	.....
	Losses		6	.....	.....

Fractions 3 and 4 of Experiment 2 were combined and oxidized with potassium permanganate in the same way as the initial alpha-hexene. The analysis of the silver salts of the acids established the presence of valeric, acetic and of traces of butyric acids indicating beta-hexene and traces of gamma-hexene which were absent in the initial hexene.

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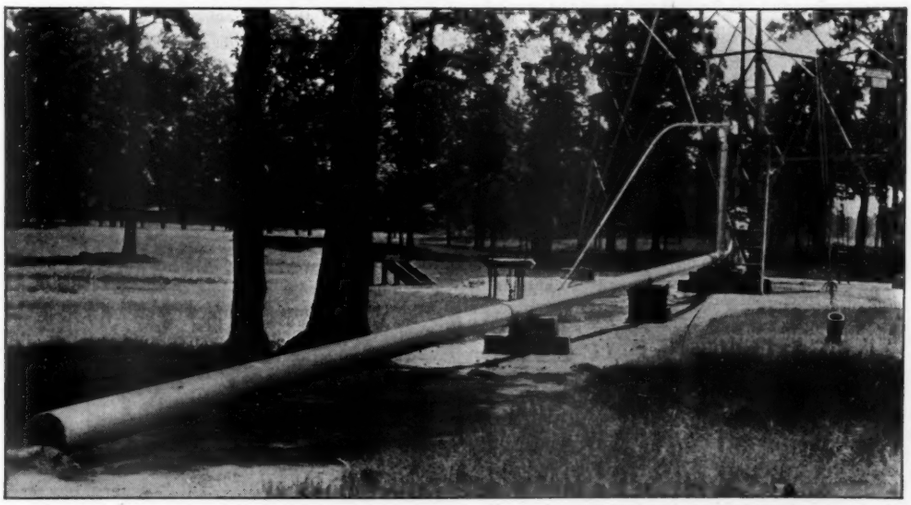
EFFECTIVE "KNOCK-OUT" FOR SALT WATER



Simple and effective, this "knockout" comprises only standard fittings in its construction, and can be cleaned with an ordinary pipe line scraper

Unique among the many kinds of "knock-outs" for wells making salt water in the East Texas field is one which effectively reduces the percentage of water from 4.8 per cent at the well to an average of 0.5, without the use of baffles or multiple turns to clog and require frequent cleaning.

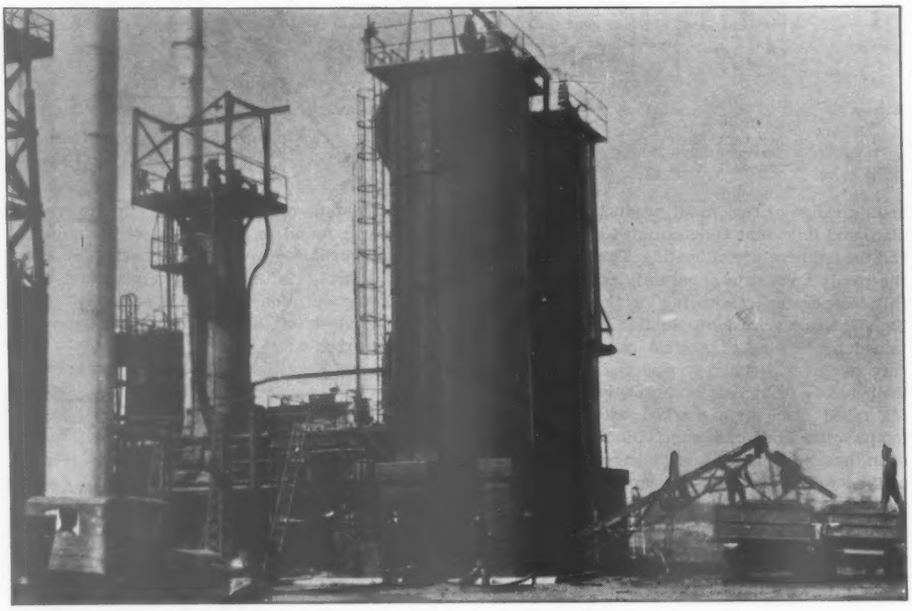
The device consists simply of three joints of 8-inch pipe, elevated at the well end some 3 feet above the end on the ground, this last being provided with a 1-inch drain line to a convenient evaporation pit. Into the upper end of the 8-inch the flow line from the well extends approximately one joint, being supported there by a spider which centers the smaller pipe within the larger. The incoming stream of oil and water flows from the end of the small line, the single 180° turn being sufficient to remove most of the salt water and a small percentage of the sand.

The oil flows back along the outside of the flowline stub, rising through a 10-foot vertical standpipe to the control valve, from which a conventional lead is carried to the tank battery.

Modernize Cracking Plant in Louisville Kentucky

By J. J. LOUDERMILL, J. L. GASKELL,
Louisville Refining Co.

C. H. ALBERDING, and B. J. FLOCK
Universal Oil Products Co.



Two coking chambers installed in cracking plant modernization of Louisville Refining Co.

A Dubbs cracking unit, which had seen years of service and which had been modernized by the addition of coking equipment and other improvements, recently completed a 70-day continuous coking run on heavy oil charging stock, at the plant of the Louisville Refining Co., Louisville, Ky. No difficulty was experienced during the run, which was terminated to permit complete plant inspection.

The Dubbs unit is of the two-coil, selective cracking type. Installation of the coking equipment was the last step in the modernization program, and was brought about by the depressed fuel oil market, which has become general throughout the country as fuel oil stocks increased. The coking equipment is of the integral type, wherein the coking chambers are interposed between the reaction chamber and the flash chamber of the cracking unit. In this arrangement, all the oil passing through the cracking plant goes through the coking chambers also. The heat in the vapors serves to coke the residuum. The new set-up gives the company control of fuel-oil production. Only enough fuel oil is made to supply the market, the rest is coked.

Gradual Expansion

The history of the Louisville Refining Co. is the story of logical stepwise development and improvement of the cracking process to meet changes in marketing conditions as they arose. The company's original Dubbs installation was made in 1923. It consisted at that time of two units operating on the single-coil principle, producing gasoline, p.d. bottoms and coke. For a number of years this operation was satisfactory and profitable. However, as market conditions changed and the cracking process was improved, it was decided to modernize the equipment. This was done gradually, so as to interfere as little as possible with plant operations. The first step in the modernization program was the installation of a high-pressure, full-flashing reaction chamber. This permitted increased cracking and the production of cracked fuel oil. For several years there was a good industrial market for this fuel. Next, the two old furnaces were replaced by a new type, double end-fired furnace, and a new engine-driven hot-oil pump was added.

As the demand for higher octane gasoline increased, provision was made for two-coil, selective cracking. This meant installation of a light-oil heater, a bubble tower and a hot-oil pump for handling light oil. When the new light oil heater and bubble tower were installed the equipment was so arranged as to give great flexibility in operation. It was so designed that the new equipment could be used altogether on reforming, on selective cracking or combinations of the two. Thus, the refinery is able to reform as much naphtha as may be necessary to meet the requirements, and when little of the reformed product is needed the unit can be operated for maximum heavy-oil cracking capacity. Installation of the two coking chambers was the final step in the program. With the coking installation, the refinery is now able to meet every market requirement as it arises. The coke is an excellent fuel for tobacco-drying and other industrial uses, as well as for domestic heating.

In operation, the heavy oil charging stock is fed into the fractionating column over side-to-side pans in the bottom, where it mixes with heavy recycle stock. This material is then pumped to the heavy oil furnace, which it leaves at 935° F. and passes from there to the reaction chamber where it is joined by material from the light-oil furnace. All of the oil and vapors entering the reaction chamber are discharged at the bottom through a pressure-reducing valve and passed to the top of the coking chambers, which are alternated during the run. The vapors from the coke chambers pass to a flash chamber, from which a small amount of light residuum is produced. This can be controlled in quality and quantity to meet current market requirements. The vapors from the flash chamber go to the fractionating column, where the heaviest fractions are condensed with the raw oil. The lighter vapors ascend the column, from which a light fraction is taken off at an intermediate point. This fraction is heated to 1,040° F. in the light-oil heater, along with naphtha, if a reforming operation is required.

The gasoline vapors pass out at the top of the fractionating column through a condenser to a distillate receiver. In the receiver the gas is separated from the gasoline, which is pumped to the stabilizer, which reduces the gasoline to the proper vapor pressure. Each chamber holds about 55 tons of coke, and production is sufficient to fill one chamber each day, so that a regular daily clean-out schedule is maintained. During the 70-day run, 65 chambers of coke were produced. The coke contains approximately 8 per cent volatile matter, has a good structure and is quite strong. Coke is removed from the chambers by the cable method and discharged from the bottom of the coking chambers into trucks which haul it to the coke pile. The actual removal of the coke from the chambers requires about four hours.

The results of this run are given in the following table:

	Barrels	Per cent
Topped crude	107,527	....
Naphtha	28,010	....
Total charge	135,537	100.0
Gasoline	82,106	60.58
Residuum	14,620	10.79
Gas and loss	15,915	11.74
Coke, tons	3,629	16.89
Coke, lbs./bbl. T.C.	.....	67.50

PROPERTIES OF CHARGE AND PRODUCTS

	Topped crude	Naphtha	Gasoline	Residuum
Gravity, °A.P.I.	22.4	53.1	59.8	5.2
I.B.P.	510	158	90	...
10 per cent	590	232	136	...
50 per cent	680	300	234	...
90 per cent	...	396	349	...
E.P.	...	425	394	...
Cold test	...	...	...	10
Flashpoint	...	...	...	154
B.S.&W.	...	...	...	0.2
Vis., S.F. at 122° F.	...	...	...	52
Octane No. MM.	...	...	69.5	...
Vapor press., lbs.	...	...	8.6	...

The gasoline from the cracking unit is sweetened in a U.O.P. copper sweetening plant to give a finished product with practically no loss in octane number in the process.

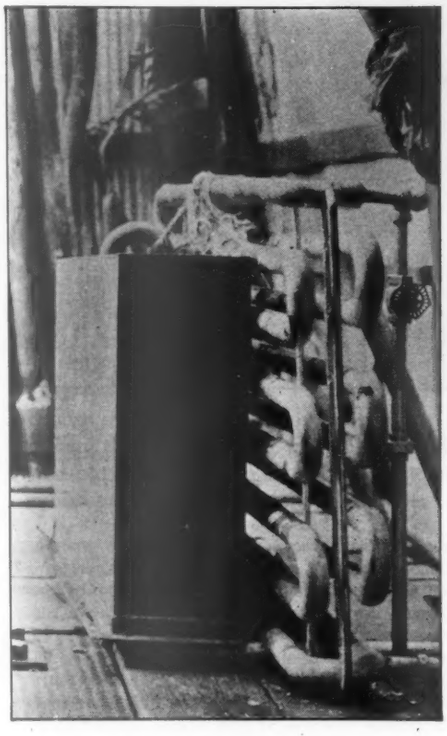
Nueces Recycling Plant Is Operating

The new $500,000 recycling plant of the Corpus Christi Corp. in the Stratton field, 8 miles west of Bishop, is now in operation, and construction is nearly completed on all the units. It is capable of handling from 50 to 75 million cubic feet of gas and will soon be running full capacity.

The wet gas is taken from wells at the 6,400-foot level. It is run through separators, where the gas is stripped of distillate, then the residue gas is returned to the horizon from which it came.

OPERATING IDEAS

Steam Coil for Rotary Rig



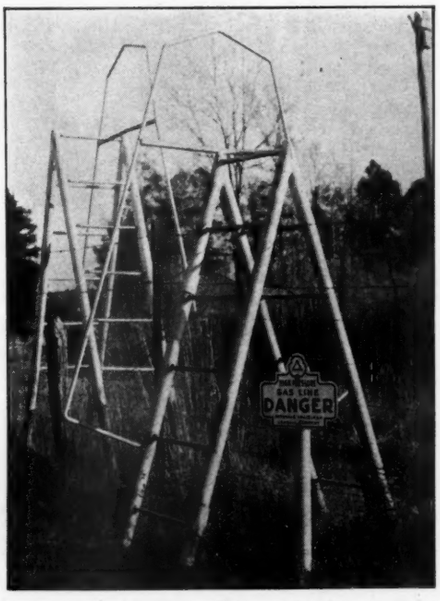
When the cold winds blow, a little warmth is comforting but the usual derrick stove is forbidden because of fire hazard when completing a well. This steam coil, located on the edge of the floor back of the driller, provides the needed warmth. It is made from 2-inch pipe with 1-inch connections for admitting and exhausting the steam. Advantage is gained in using relatively large pipes as these permit a greater radiating surface. Usually there is too much condensation in the soil to permit utilizing the steam for use in an engine after it passes through the coil.

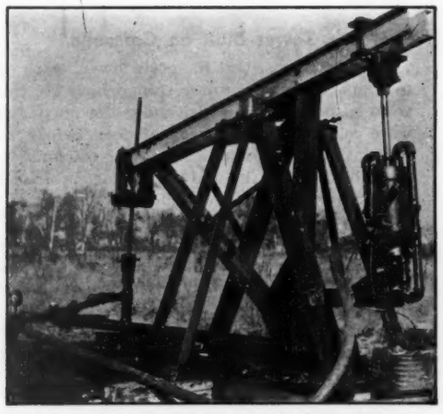
Stile for Line Walker

In the El Dorado, Arkansas, district a gas pipe line company has fabricated welded stiles to help the line walkers. It is attractive in appearance, easy to set, and requires no maintenance except occasional painting. The frame is constructed of 2-inch pipe, with a braced handrail made of sucker rods at one side to enable a man to climb over with a load. For rungs, short sections of corrugated or roughened reinforcing steel are used to insure safe footing in bad weather. Such a ladder is unharmed by brush or grass fires, and it permits the landowner to repair his fence with a minimum of interference.

Method for Adjusting Height of Drilling-Engine Platform

The substructure shown in the accompanying photograph was designed by one operator in the Griffin pool of West Central Texas to provide means for adjusting the height of the drilling-engine platform so it would be on level with the derrick floor. Offsetting holes placed every 4 inches in the six legs provide for 2-inch adjustments from the lowest level to a point which would be twice as high. This is accomplished by having 5⅜-inch casing placed inside the 6-inch pipe with pins to hold the structure at the desired height. Two pieces of 4-inch pipe welded to each side of the structure allow it to be skidded from location to location with its 33,000-pound load left in place. Cross members running the length of the substructure form a support for the flooring to rest on. To prevent the flooring from skidding sideways bearings from an old rotary table were welded at each of the four corners as shown. However, the rig welder intends to improve upon this during his first "idle moments" by welding strips of 2-inch angle iron on top of the longer cross members. This will prevent any slippage. The angle iron will be chosen which has sides a little less than the thickness of the lumber and the floor will thus come flush or a little above the iron, providing a fairly level surface.

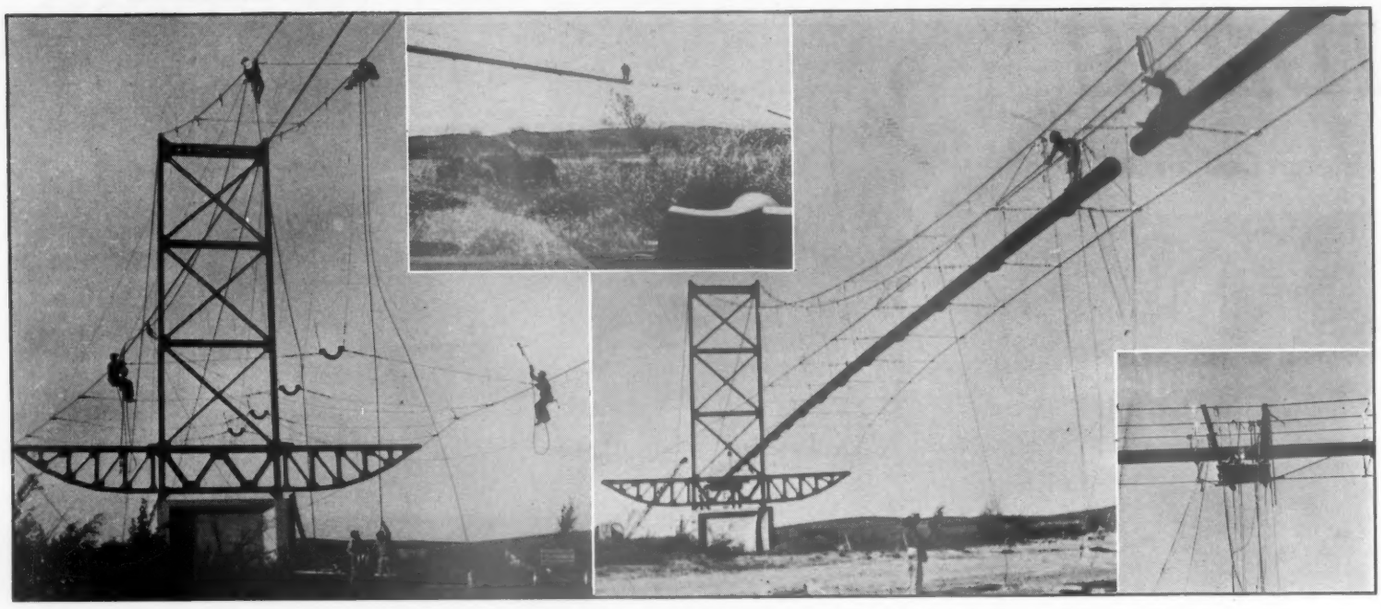




Vacuum Pump on Jack

In the Centralia, Illinois, townsite pool, operators are using vacuum pumps. On pumping jacks vacuum pumps are mounted on the rear of the jack, flexible hose is connected to the tubing. The pump is mounted on a hinge, allowing it to follow the motion of the beam.

CONSTRUCTION OF LONE STAR GAS CO. BRIDGE ACROSS RED RIVER



(Left) ***Weaving the steel web that holds 18-inch transmission line high above the river bed. Men at top are more than 70 feet above ground and are fastening pipe saddles and wind cables to the main suspension cables.*** **(Upper insert)** ***Riding a 300-foot section out as it is pushed toward middle of the bridge.*** **(Right center)** *Workmen bringing two 300-foot sections of 18-inch pipe together at the middle of the new bridge across the Salt Fork of the Red River in Oklahoma.* **(Lower insert)** *Welding the 300-foot sections together at middle of the bridge*

Lone Star Gas Co. recently completed construction of a new suspension bridge, having a span of 600 feet from tower to tower, at a point where its 18-inch main line transmitting gas from the Panhandle to Dallas and other Texas cities crossed the Salt Fork of the Red River 12 miles north of Hollis, Okla. The company was compelled to build the new bridge and replace a section of the line after a flood swept the old concrete and wood piling bridge away. The impact of the water and debris from two other bridges farther upstream destroyed the original structure and severed the 18-inch line. The new bridge is more than 1,000 feet from anchor to anchor and the steel suspension cables hold the pipe line 16 feet above the highest flood level on record. Work was begun in the latter part of August and the bridge was completed and ready for service early in December.

Tower Built on Caissons

Four caissons, two for each tower, were sunk to support the steel tower from which the cables were suspended. The two under the north tower were sunk to a depth of 51 feet before solid foundation was found. The steel caissons were assembled at the site and were 8 feet in diameter. Workers entered the cylinders by means of air chambers, the "sand hogs" working under air pressures as high as 15 pounds. Excavation was by means of hydraulic excavators and as the dirt and gravel were washed from beneath the cylinders and discharged through large pipes, the caissons sunk into place. As they were lowered they were filled with concrete to weight them down. Two months were required to sink the four caissons.

The steel towers were erected and riveted in six days, this rapid time being made possible by the fact that the materials were cut to close dimensions at the steel plant and were easily fabricated at the bridge site. The position of each piece was designated by marks made at the factory and the field crew erected the steel parts according to these directions. The four I-beams forming the principal portion of the towers weigh 4 tons each or a total of 32,000 pounds. The two main suspension cables which carry the weight of the line are 1⅝ inches in diameter.

Since the pipe leaves the bridge on the north end some 20 feet above ground, it was necessary to build a platform on which joints were lifted and welded. A dragline crane was used to lift the joints to the platform. After each joint was welded to the line, a cable was attached to the shore end of the pipe and by means of a winch and blocks it was moved out onto the saddles suspended from the carrying cables. Half of the line, 300 feet, was constructed in this manner from each tower and the two 300-foot sections then welded togethed at the middle of the bridge.

From the time Lone Star's old bridge was destroyed until the new bridge was completed, gas was carried across the river through a 6-inch welded line buried in the river bed. This is the sixth major bridge on company lines across treacherous rivers according to the company publication, "Blue Blaze News," from which the foregoing was taken.

CHECKING MUD SAMPLES ON DEEP UNION PRODUCTION TEST

James Leroy Van Atten and Duval A. Davidson, engineering students at A. & M. College of Texas, testing sodium silicate-brine mud from Union Producing Co. No. 1 Minnie Brown,

PROBLEMS FROM READERS

Edited by L. G. E. Bignell

The Role of Minerals in the Present International Situation

Do you have a copy of the paper by Prof. Charles K. Leith of the University of Wisconsin, presented before the recent meeting of the Geological Society of America on the "Role of Minerals in the Present International Situation?"—B. M. N.

We do not have the entire paper but do have the following abstract from it which gives most of the pertinent facts. As oil is one of the important minerals, if not the most important, this paper has much of interest to the oil industry.

"Ultimate control will remain where it is, and might will continue to make right," said Professor Leith, pointing out that the increasing cooperation of the "have-not" nations will bring about greater unity of action between the United States and England. "It is part of our domain that is ultimately at stake," according to Professor Leith, whose theme was "The Role of Minerals in the Present International Situation."

"The challenge of the 'have-not' nations has taken various forms," Professor Leith explained. "First is the effort to find and develop domestic supplies and to find processes which will make low grade supplies available. This movement has gone far enough to demonstrate its essential futility. The inevitable consequence is the pressure for control of more supplies outside through acquisition of territory. Any approach to equalization by this method means shifting of territory on an unthinkable scale.

"Partial equalization merely builds up the demand for more, and there is no guarantee that the process would stop even with complete equalization. If all the mineral supplies of the world outside of England and the United States were to be included, they would be less than those of the dominant group.

"Parallel with the drive for more territory is the drive for commercial control, principally through the method of barter or direct exchange. This campaign is proving successful in various quarters. It will not solve the problem of insuring self-sufficiency in time of war but it will help in this direction and particularly will it strengthen the capacity of the 'have-not' nations to win more territory by force."

Professor Leith sketched the efforts of Germany, Italy and Japan to make themselves self-sufficient in regard to essential mineral supplies and concluded that these efforts were not only unsuccessful, but that in themselves they were creating exchange difficulties which were cutting them off from outside supplies which are really essential to their present industrial activity.

"The necessity of protecting democratic institutions will greatly stiffen the defense of the material position of the United States. The defense will include not only resistance to the acquisition of more territory, but perhaps of greater importance, the building up of greater resistance to commercial control through trade and barter. In this field our preparedness is yet sadly in arrears. Our counter thus far is the extension of reciprocal trade under the procedure of the Hull treaties, but for the present at least this method is not proving effective in holding our position.

"The United States cannot avoid the issue. The frontiers of our mineral industries, including both raw materials and markets, extend to nearly all parts of the world. It is part of our domain that is ultimately at stake. Isolation would mean going back industrially to the horse and buggy age. This, of course, is possible, but it is highly unlikely that we would stand for it.

"The increasing cooperation of the 'have-nots' in the drive for redistribution of the world's wealth will inevitably force a higher degree of cooperation among the nations now in control, which means England and the United States.

"The problem will not be settled by any changes pending in present disturbances in Europe and Asia. The problem is larger than that and will grow steadily more acute until the ultimate question of world control of raw materials is settled. The problem requires a vast amount of planning and research, which is now hardly stated, and should receive more attention than it has from groups interested in world peace."

Germany is dependent upon foreign countries for at least 60 per cent of her iron ore supply, Italy's production of domestic iron ore amounts to only 20 per cent of her total consumption, and Japan mines within her own territory only 35 per cent of the iron ore she needs to meet her steel requirements, according to statistics cited by Professor Leith.

Germany produces only 14 per cent of her need in copper and can produce at the most only 40 per cent of her need in commercial-grade manganese. Propaganda in the dictator countries, he held, has overstated the development of metal substitutes and processes for the extraction of metal from low grade ores.

"Nations differ in environment," Professor Leith continued, "and therefore in economic opportunity. This is especially true in minerals, the basis of industrial and therefore military power. The large sources are few and very erratic in their distribution, and they cannot be grown or legislated into existence.

"The control of the mineral part of our environment is centered around the North Atlantic Basin, where the industrial revolution started. The United States and England control nearly 75 per cent of the world's total. Control of the sea by the same group means control of a large part of the international movement in minerals. The mineral supplies of France and Russia are minor in comparison, though more or less adequate for these countries.

"There are enough minerals for all if international movement were unrestricted, but at best some countries are at commercial and military disadvantage. The challenge of the less privileged nations is not temporary and not merely the whim of individual dictators of countries but is based on conditions which will mean greater intensity in the drive for a long future. The question is frequently camouflaged by political and racial considerations, but it underlies much of present world disturbance.

"When population pressure outstrips capacity for food production, industrialization, which is in the main based on mineral supplies, is the only way to maintain or improve the standards of living by mechanization in general on an ever-expanding scale and this means increasing dependence on minerals.

"The present huge scale of requirements is new in history. The augmented scale requires concentration on the few really large sources capable of meeting the new scale. These sources are too few to go around among the nations. Hence there is increasing necessity for international movement of minerals."

In his recently published book, "Mineral Valuation of the Future," Professor Leith points out that "a popular concept of mineral value is that it is something fixed and intrinsic; that a ton of coal or iron or copper is equivalent to every other ton of similar grade, regardless of the environmental condition under which it occurs. Too little attention is paid to the fact that the values are largely man-made, that value is largely inherent in man's capacity to make use of the mineral, and that it shifts with his needs and preferences. During human history all of the minerals now used have existed in the ground, but until recently many of them had no value, for the reason that man had developed no need for them. Many minerals are known today which are not used commercially and have no present value, but which doubtless will take on value in the future as man learns how to use them. Minerals of identical qualities, occurring under different physical and political conditions, have widely different values, depending on the cost of extraction, the cost of transportation, and the shifting needs of industries and nations. Man is multiplier and nature the multiplicand in the product called value. Some of the outstanding variations in value at different times and places are as follows:

"The value is greater if the ore body is cheaply accessible to industrial populations. Many mineral deposits are known which have little or no present value because of their location.

"The value is affected by the processes of extraction, concentration, and refining.

"The value is affected by the presence or absence of competitive conditions or market or price controls.

"The values are affected by cycles of business conditions, by speculation, or, what amounts to the same thing, the state of mind of the investing public. It is sometimes said that value is a state of mind.

"Most of us think of the value of a mineral deposit as the realizable return to the private owner, but there is also a value to the community, to the state, to the government, and even indirectly to the world at large. The fact that in many countries minerals are the property of the state does not mean that they have no value, but that the value accrues to the public and not to the private owner. The fact is sometimes overlooked also that even in countries where private ownership is established a considerable part of the value accrues to the government.

"For instance, when we speak of value of mineral resources in the United States we think of value to the private owner, which means the present worth of the share of the earnings which the owner is allowed to collect and retain. Actually the state and government collect a considerable percentage of the total earnings in the form of taxes, which means in effect that part of the present value of the property is appropriated by the public.

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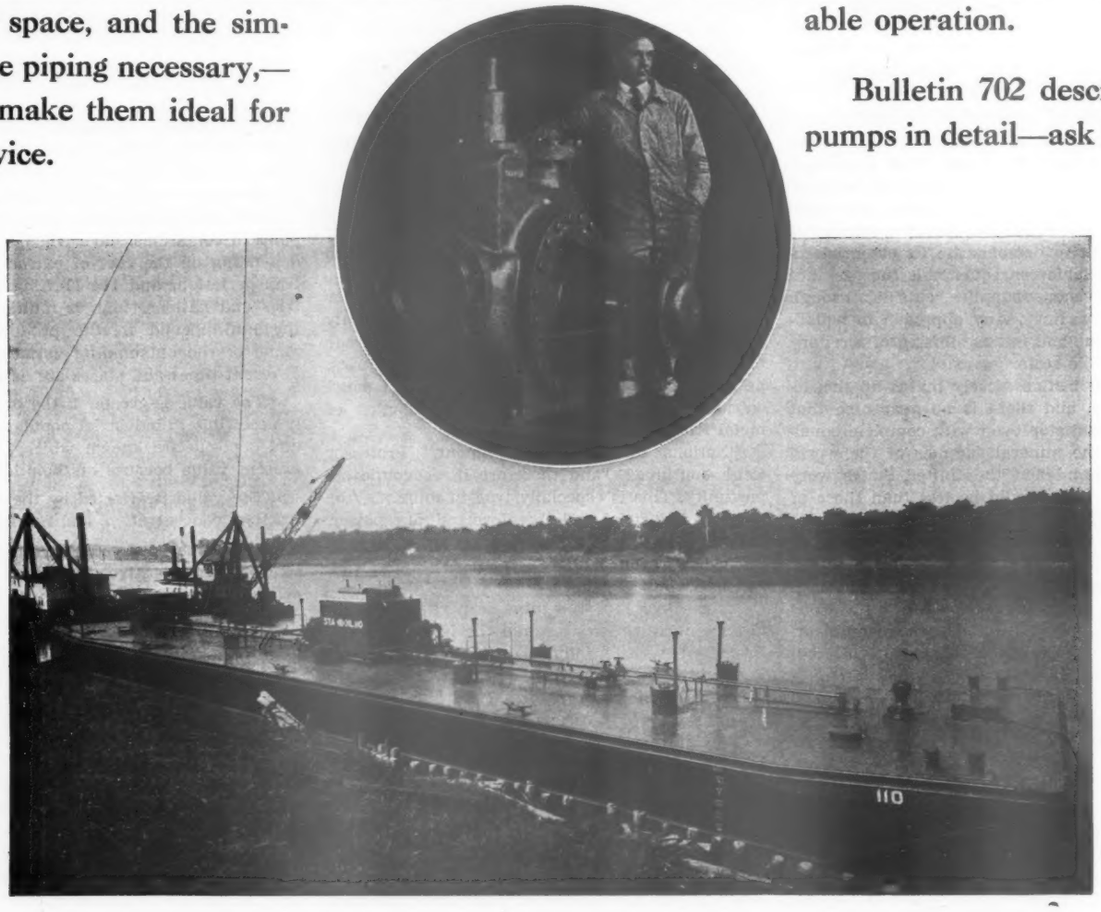
Bulletin 702 describes these pumps in detail—ask for it.



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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Asphalt For Built-up Roofing and Water-proofing Surfacing

Please supply specifications covering asphalt for roof coating. A product is wanted which is water-proof on metal compositions and gravel roofs and which would not dry out over a period of several years.—R. B.

The federal specification for asphalt for built-up roofing and water-proofing covers three types of which two may be used for the purpose mentioned. Type 1 relates to asphalt for surfaced, built-up roofing, which may be Class A, free from inorganic matter, and Class B, containing mineral matter. Type 2 asphalt for unsurfaced built-up roofing, shall be either Grade 1, for inclines not exceeding 3 inches per foot over boards and 1.5 inches over concrete, or Grade 2 for inclines not exceeding 6 inches per foot over boards and 3 inches over concrete. Type 2, either grade, may be Class A or B as under Type 1. The physical and chemical requirements are shown in the table.

ASPHALT FOR BUILT-UP ROOFING
REQUIREMENTS

	Type 1		Type 2	
	Max.	Min.	Max.	Min.
Softening point, °F.	165	140	165 grade 1 190 grade 2	150 grade 1 165 grade 2
Penetration at 32°	...	10	...	10
Penetration at 77°	50	25	50	20
Penetration at 115°	...	...	100	...
Ductility cm. at 77°	...	5	...	5
Volatile matter, per cent at 325°	1.5	...	1.0	...
Decrease in penetration, per cent at 77° after heating	40	...	40	...
Ash, per cent:				
Class A	1	...	1	...
Class B	35	10	35	10
Coarse particles (inorganic matter retained on a No. 100 sieve) expressed as percentage of ash, Class B only ..	2	...	2	...

Note: All temperatures are °F. Penetrations are hundredths of a cm. The ash shall be mainly silica or silicates.

Freshly melted material of both types shall be uniformly glossy and on aging one week its surface shall not become dull or show any separation of oil, grease, paraffin scale, or similar material.

Reference: Federal Standard Stock Catalog SS-A-666 Asphalt for Built-Up Roofing.

Standard Plug Temperature Knock Testing by Army Method

What is the standard plug temperature, mentioned in connection with the knock testing of gasoline, and how is it obtained?—M. G. P.

The U. S. Army specifications for the knock test of aircraft fuel requires that a temperature plug shall be fitted into the cylinder head of the test engine. The plug shall be in circuit with a suitable pyrometric millivoltmeter or potentiometer capable of detecting a temperature change of 1° C. or 2° F. "The standard temperature plug reading for each particular engine, cylinder and piston combination, and temperature plug, shall be determined as follows:

"*a.* Maximum knock mixture strength shall be determined for C. P. benzene.

"*b.* Maximum knock mixture strength shall be determined for a mixture of 88 parts of isooctane and 12 parts of normal heptane.

"*c.* Compression ratio shall then be adjusted until the same temperature plug reading is obtained with both fuels specified in *a*, and *b*, on a mean of three alternate comparisons.

"*d.* With the fuels and conditions as specified in *a*, *b*, and *c*, the engine shall cease firing instantly on switching off the ignition and the connection of the alternating current motor generator with the power line. The cessation of firing is not required to be maintained after the engine rate or revolution has fallen off appreciably. Cessation of firing as defined above will hereafter be defined as a clean cut of the ignition switch.

"If the fuels specified in 4, *a*, and *b*, when tested as required in 4, *c*, do not produce a clean cut of the ignition switch, the engine condition is at fault and the engine should be examined for defects, particularly as to carbon deposits or spark plug condition.

"*e.* With temperature plug reading as specified above, a clean cut of the ignition switch shall be obtained on:

"1. Primary reference standards used.

"2. Secondary reference standards used.

"3. Fuel being tested against primary or secondary reference standards.

"In the event that the fuel refuses to cut clean on the ignition switch at the standard temperature plug reading, the compression ratio shall be reduced until it does cut clean and its antiknock value shall be regarded as equal to the blend of the primary or secondary reference standards which produces standard temperature plug reading at the compression ratio just producing a clean ignition cut on the fuel.

"*f.* The plug temperature determined in 4, *c*, shall thereafter be regarded as the standard at which all fuels, of no matter what antiknock value, shall be compared. This temperature shall be checked at weekly intervals if aromatic or alcohol blends or highly cracked gasolines are being knock tested."

Reference: U. S. Army Specification No. 2-94.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired, postage should be included.

CHEMICALS FOR THE PETROLEUM INDUSTRY

Ethyl Benzene

Use—Increasing octane rating of gasoline.
Form—Colorless liquid.
Formula—$C_6H_5.C_2H_5$.
Molecular weight—106.
Specific gravity—0.8678.
Boiling point—277° F.
Melting point— —135° F.

LIMITATIONS

Color	none
Boiling point, max., °F.	278
Specific gravity	0.867

Note: Ethyl benzene has been reported to have an octane rating of 96.

Diphenylthiocarbazone Test for Traces of Copper in Gasoline

Will you kindly give us the details of the method in which a green dye is used for detecting the presence of copper in gasoline?—A. C. O.

Diphenylthiocarbazone, also known by the trade name Dithizone, is a compound soluble in several organic solvents, such as benzene, chloroform, and carbon tetrachloride, to form a green solution, which on standing slowly turns to yellow. In the presence of the heavy metals, lead, copper, iron, and zinc, certain characteristic color reactions are produced. The color change for copper is from green to pink or red and finally brown, the speed with which the transition takes place is an indication of the quantity of copper present.

The test solution is prepared by dissolving 10 milligrams of diphenylthiocarbazone in a half liter of pure benzene. A smaller volume may be prepared at the rate of 2 milligrams per 100 cc. of benzene. The solution is stored in a brown bottle away from the light.

A supply to serve a day or two is placed in a small dark brown bottle. The test portion is withdrawn from this service bottle by a pipette.

Procedure: The sample of gasoline, 100 cc. is placed in a Nessler tube, or a 4-ounce bottle, to this is added 1 cc. of the test solution, without shaking. Note the time required for the green color to disappear and the pink is distinct. This is a positive indication of the presence of copper, the shorter the period the larger the quantity. The reagent is sensitive to 1 part in 5,000,000.

Precautions: A positive result should be checked by making a duplicate test. Other heavy metals produce colors with this reagent so the chemist should prepare separate gasoline samples containing lead, copper, acids, and alkali to determine the influence of each.

Note: If it is necessary to prepare the solution in large quantities a further precaution against decomposition, caused by light and air, is to cover the solution (chloroform) to a depth of from 5 to 8 mm. with 5 per cent ammonium acid sulfite solution and enough hydrochloric acid sulfite solution and enough hydrochloric acid added to liberate a trace of sulfur dioxide. The stock solution should not be made larger than a two weeks' supply.

References: A review by Fisher; Angew. Chem. 50, 919, 1937. E. B. Sandell, Determination of Copper, Etc., in Silicate Rocks, Ind. Eng. Chem. Anal. Edition 9, 464, 1937. Additional references mentioned here.

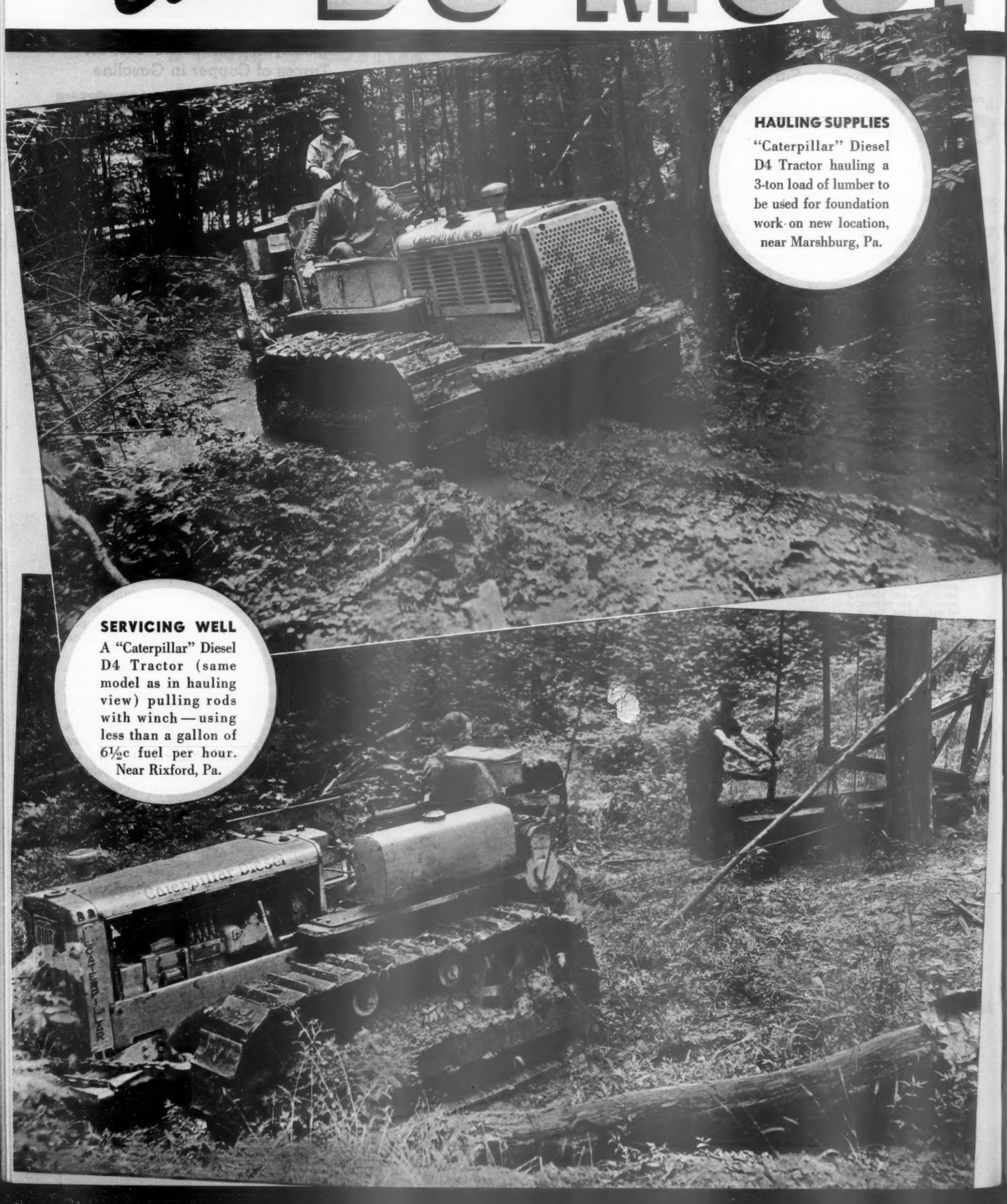
Rankine Scale of Temperature

What is the meaning of Rankine degrees temperature and how are they derived?—D. V. N.

Rankine degrees are simply degrees Fahrenheit converted to the absolute temperature scale by the addition of 460 to the actual Fahrenheit temperature observations for indications above 0° F. and subtracting the observed degrees from 460 if the temperature is below 0° F. Absolute zero on the Fahrenheit scale being very close to 460 degrees below zero.

The system was first proposed by W. J. M. Rankine, a Scotch physicist and engineer, who died in 1872.

They Can DO MOST



HAULING SUPPLIES
"Caterpillar" Diesel D4 Tractor hauling a 3-ton load of lumber to be used for foundation work on new location, near Marshburg, Pa.

SERVICING WELL
A "Caterpillar" Diesel D4 Tractor (same model as in hauling view) pulling rods with winch — using less than a gallon of 6½c fuel per hour. Near Rixford, Pa.

FIELD OPERATIONS

Summarizing the Week's Developments

OKLAHOMA—Two producers were completed in the new Coyle pool, Payne County. Two Prue sand producers were completed and nine new operations started in the Sac and Fox pool, Lincoln County. An outpost east of the community block at Ramsey, Payne County, found saturation in Hunton lime but was checking low structurally.

KANSAS—Productive limits of the Campbell pool in Rice County were extended 1 mile southward. Other areas extended the past week included the Morel pool in Graham County, Buhler pool in Reno County, Leesburgh pool in Stafford County, Letsch pool in Russell County and Prusa pool in Barton County.

TEXAS—In the Wichita Falls district a noticeable increase in activity has followed recent discoveries in Wichita, Archer and Montague counties. A deep test was started in Section 44, Bosque County school lands, in Clay County. In the eastern part of the state two deep Marine Trinity tests in the Opelika and Cayuga pools are on the verge of completion and it is believed they will be oil or distillate producers. Deep sand production was found on the southeast flank of the Esperson dome in Liberty County, the well flowing 21 bbls. per hour of 40-gravity oil through three-sixteenths inch choke. Miocene sand production was opened at Clam Lake, Jefferson County, the discovery well starting at 173 bbls. at 2,387-97 feet. Another dry hole in the Clear Lake field in Harris County was completed at 6,042 feet. In Southwest Texas a pool was opened on the Frio-Vicksburg trend in Jim Wells County. The discovery well started as a small producer. Humble Oil & Refining Co. will start a test on a 144,316-acre lease on the Kenedy ranch in Kenedy County. In the West Texas district, extensions were made to the Foster pool in Ector County; Keystone pool in Winkler County and Seminole pool in Gaines County. The last named operation, No. 2 Riley in Section 229, Block G, W.T. Survey, flowed 1,554 bbls. in seven and one-half hours from pay at 5,152-5,224 feet. In West Central Texas a pool was opened in Taylor County. In the Griffin pool in Jones County, Iron Mountain Oil Co. No. 2 Taylor flowed 3,744 bbls. in 24 hours, naturally. A second deep-pay horizon was uncovered in the Noodle Creek pool in Jones County.

LA-ARK-TEX—In southern Louisiana good production was found on the southeast flank of the Potash dome in Plaquemines Parish. The South Roanoke field in Jefferson Davis Parish and the North Crowley pool were extended by substantial producers. The Sid Richardson discovery on the Eola prospect, Avoyelles Parish, heretofore reported in detail, has been followed by an extensive seismograph and leasing campaign. Only routine reports were received from North Louisiana, but in Arkansas a 2,400-bbl. well is in the course of completion in the Magnolia field in Columbia County.

MICHIGAN—A 2,000-bbl. well in Freeman pool (Township 18n-6w), Clare County, was the best of the state's completions last week. An outpost in Section 7-1s-14w, Bloomingdale Township, Van Buren County, started at 1,200 bbls. a day after an acid treatment and extended the Bloomingdale field.

WYOMING—Leo sand production in Lance Creek was extended by a well that flowed 15 bbls. an hour naturally. It is in Section 8-35n-65w.

Completions in All Fields

(Week Ending January 28, 1939)

	Oil	Gas	Dry	Total	1939 total comp. to date	1938 total comp. to date
N. Y., Pa., and W. Va.	40	2	3	45	278	495
Ohio	3	10	5	18	84	98
Indiana	0	0	0	0	10	6
Kentucky	6	0	5	11	55	60
Illinois	43	0	4	47	337	48
Michigan	5	1	5	11	80	59
Kansas	15	0	4	19	87	188
Oklahoma	26	3	8	37	144	162
Texas:						
North Central Texas	21	1	23	45	166	208
West Texas	32	1	5	38	153	227
Texas Panhandle	9	0	1	10	32	79
East Texas	22	0	0	22	86	227
East Central Texas	2	0	2	4	24	47
East Texas Border	3	0	0	3	7	14
Gulf Coast Texas	21	1	3	25	110	117
Southwest Texas	30	1	8	39	173	167
Total Texas	140	4	42	186	751	1,086
North Louisiana	2	1	5	8	41	59
Gulf Coast Louisiana	7	1	4	12	56	59
Total Louisiana	9	2	9	20	97	118
Arkansas	4	0	0	4	30	22
Montana	2	0	1	3	11	5
Wyoming	1	0	0	1	6	18
Colorado	0	0	0	0	1	0
New Mexico	11	2	2	15	60	54
Utah	0	0	0	0	0	0
California	13	0	4	17	78	129
Total United States	318	24	92	434	2,109	2,548
Total previous week	314	27	88	429		
Week ending Jan. 29, 1938	366	48	106	520		

Outstanding Fields--Highlights

(Week Ending January 28, 1939)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	29	43	8	5,929	914	20,990
Wasson-Bennett	5	32	6	6,140	203	11,468
Ector County	6	65	10	10,642	1,530	43,356
Winkler County	4	11	7	1,817	1,749	36,400
Howard-Glasscock	3	20	0	0	1,037	15,550
East Texas	15	49	22	1,294	25,936	372,498
OKLAHOMA						
St. Louis	6	31	6	1,362	772	25,250
Oklahoma City	0	6	0	0	1,086	99,875
KANSAS						
Barton County	4	18	2	1,451	401	11,398
Stafford County	7	21	6	1,664	235	5,597
Rice County	1	14	1	722	1,263	28,805
Russell County	3	23	1	678	1,187	22,043
NEW MEXICO						
Lea County	8	61	9	1,229	2,018	91,280
LA-ARK-TEX						
Rodessa, La-Ark-Tex	3	4	3	745	1,061	63,705
Cotton Valley, La. (deep)	1	15	0	0	111	11,430
Schuler, Ark.	3	4	2	825	145	18,590
Jennings, La.	2	8	0	0	134	25,938
MICHIGAN						
Freeman-Redding	4	24	1	2,000	50	9,196
ILLINOIS						
Central Illinois	50	392	43	11,031	2,339	125,235
CALIFORNIA						
Wilmington	6	11	0	0	597	86,250
KENTUCKY						
Birk City	3	15	3	575	115	4,712

Illinois and Kentucky

By STAFF CORRESPONDENT

2 Devonian Lime Failures; 43 New Oil Wells in Basin

MATTOON, Ill., Jan. 30.—Only 47 wells were completed in the Illinois fields in the past week in review, including 43 oil wells with a total initial production of 11,031 bbls., and four dry holes.

The initial production of some of the wells in Marion and Fayette counties represented only short-time flows. The potential initial production was considerably larger than the 11,031 bbls. credited to the wells.

Fayette led in results with 20 oil wells and 5,343 bbls. initial production. Marion had 15 oil completions with 4,978 bbls. initially; Clinton, two wells with 73 bbls.; Richland one, with 69 bbls.; Clay three, with 429 bbls.; Jefferson one, with 200 bbls., and Wayne one, 39-bbl. completion. The dry holes were one each in Coles, Edwards, Wayne and Washington counties.

The Coles County dry hole was drilled into Devonian lime 82 feet. Another Devonian lime wildcat failure was registered in Jefferson County where the Devonian was penetrated 157 feet, finding no sign of oil or gas.

The failure to find anything better than sulfur water in the Devonian in the Max Pray test in SW NW Section 4-2n-1e, north of Sandoval, in Marion County, and the numerous other signs of dryness or sulfur water in the same formation in other parts of the state in the past couple of years has thrown a damper over the hopes that the pay found in the Sandoval field by the Southwest Oil & Gas Co. might be frequently found in the basin area. The Pray test was only three-fourths of a mile northeast of the Southwest Oil & Gas Co.'s prolific well. Pray and his associates may deepen the hole and make a St. Peter sand test of it. This would necessitate drilling to about 4,500 feet. Menhall Corp. has a test drilling three-fourths of a mile southwest of the Pray well, which should soon enlighten the trade as to Devonian possibilities in Marion County.

G. H. Blankenship, who opened a pool in Washington County has started a test in Perry County in Section 3-6s-4w, on a well-known coal structure which has been gone over by seismograph and magnetometer crews and reported as promising. Only four wildcat starts were made last week, one each in Clark, Perry, Massac and Washington counties.

Illinois Fields

HIGHLIGHTS OF THE WEEK: Production of the basin fields fell off 7,225 bbls. per day in the past week, compared with the previous seven days. Devonian lime failures scattered in Coles, Jefferson and Marion counties are significant, following the recent flurry of interest in Devonian possibilities.

Daily production of new pools, 125,235 bbls.; old pools, 9,287 bbls.; total, 134,522 bbls.

Completed oil wells, 43; operations including locations, rigs and wells drilling, 482.

Wells Completed

Following is the list of completions reported during the past week, the initial production representing 24 hours unless otherwise stated:

In Clinton County, Adams Oil & Gas Co. No. 8 Copple, SE SE NW Section 35-2n-1w, Benoist sand at 1,349-57 feet, shot with 5 quarts, pumped 38 bbls. Adams Oil & Gas Co. No. 9 Copple, NE NE SW Section 35-3n-1w, Benoist at 1,359-67 feet, pumped 35 bbls.

In Coles County, Kingwood Oil Co. No. 1, SW NE SE Section 30-13n-8e, Devonian lime topped at 3,317 feet, total depth 3,399 feet, dry and abandoned at 3,399 feet. This test had Benoist sand at 2,025 feet, Ste. Genevieve lime at 2,132 feet. It had no show of oil in any of the following formations: Cypress, Weiler, Benoist, Aux Vases, St. Louis, Salem, Warsaw, Chattanooga, and Devonian. Surface elevation is 692 feet.

Fayette County

In Fayette County, B. C. Mayes and others are reported to have moved out and abandoned the location for No. 1 Defend, SE NW NW Section 26-4n-1w, a wildcat. Texas Co. No. 1 Griffith, NE SE NE Section 25-6n-2e, Weiler at 1,584-1,608 feet, pumped 24 bbls. in three hours and regarded as a 168-bbl. well. Carter Oil Co. No. 4 H. Durbin, NW NW SW Section 4-7n-3e, Bethel sand at 1,582-87 feet, shot with 10 quarts, swabbed 240 bbls. Carter No. 6 N. M. Hopper, SE SW NW Section 5-7n-3e, Bethel sand at 1,545-74 feet, shot with 50 quarts, flowed 690 bbls. and 124,000 cu. ft. of gas. Carter No. 2 J. Ramsey, NE NW SE Section 5-7n-3e, Bethel sand at 1,575-89 feet, shot with 10 quarts, swabbed 240 bbls. Carter No. 3 Quade, SW cor. NE SW Section 6-7n-3e, Weiler sand 1,437-80 feet, shot with 60 quarts, swabbed and flowed 296 bbls. Carter No. 4 M. Thornton, NE NE NW Section 7-7n-3e, Bethel sand at 1,554-62 feet, shot with 20 quarts, pumped 144 bbls. Carter No. 1 H. Welker, NE SE SE Section 7-7n-3e, Bethel at 1,548-58 feet, shot with 10 quarts, swabbed 240 bbls. Carter No. 1 M. Welker, SW SE NW Section 8-7n-3e, Bethel at 1,515-28 feet, shot with 10 quarts, swabbed 239 bbls. Carter No. 3 M. J. Griffith, NE NE NE Section 31-7n-3e, Weiler at 1,551-70 feet, shot with 20 quarts, swabbed 364 bbls. Jarvis Brothers No. 1 Welker B, SW NE SW Section 31-7n-3e, Weiler at 1,532-49 feet, pumped 180 bbls. Jarvis No. 4 Homan B, NE NW NW Section 32-7n-3e, Weiler at 1,579-1,604 feet, 130 bbls. of oil and 39 bbls. of water the first day and 130 bbls. of oil and 13 bbls. of water the second day. Jarvis No. 5 Homan B, SE NW NW Section 32-7n-3e, Weiler at 1,579-1,612 feet, pumped 80 bbls. with a little water, after plugging back to a total depth of 1,595 feet. Carter Oil Co. No. 6 R. Larrimore, NE SE SW Section 11-8n-3e, Bethel sand at 1,574-83 feet, shot with 20 quarts, pumped 60 bbls. of oil and 1 bbl. of water. Carter No. 1 I. Miller, SE NE NE Section 12-8n-3e, Weiler sand at 1,523-50 feet, total depth 1,607 feet, 100 bbls.

Carter Oil Co. No. 1 R. Sealock, SW SE NE Section 27-8n-3e, Stray sand at 1,555-78 feet and Bethel sand at 1,592-93 feet, shot with 50 quarts at 1,566-84 feet, swabbed 332 bbls. o foil and 20,000 cu. ft. of gas. Carter No. 1 R. Weber, SW SE SE Section 29-8n-3e, Bethel sand at 1,527-62 feet, shot with 60 quarts, flowed 498 bbls. of oil and 25,000 cu. ft. of gas. Carter No. 2 A. B. Tucker, E half NE SE SE Section 30-8n-3e, Weiler sand at 1,462-77 feet, shot with 5 quarts, swabbed 108 bbls. and some gas. Carter No. 3 A. Tucker, SE SE SE Section 30-8n-3e, Weiler sand at 1,488-97 feet and Bethel at 1,554-61 feet, swabbed 84 bbls. from Weiler sand through perforated casing. Carter No. 1 W. Ireland, NE NW NE Section 32-8n-3e, Bethel sand at 1,536-83 feet, shot with 100 quarts, flowed 252 bbls. through tubing and 85,000 cu. ft. of gas. Carter No. 1 R. E. McClay, NW NE NE Section 32-8n-3e, Bethel at 1,517-63 feet, shot with 100 quarts, flowed 714 bbls. through tubing and 150,000 cu. ft. of gas. Carter No. 3 A. Watson, NE SE SW Section 33-8n-3e, Weiler at 1,493-1,529 feet, shot with 30 quarts, flowed 328 bbls. and some gas.

In the Olney field in Richland County, Texas Co. No. 2 W. Elliott, SE NW SE Section 22-4n-10e, McClosky lime at 2,999-3,003 feet, acidized with 5,000 gallons, pumped 69 bbls.

In Clay County, Pure Oil Co. No. 2 Howard Cazel, SE SW SE Section 23-4n-9e, Weiler sand at 2,573-2,601 feet, shot with 40 quarts, pumped 115 bbls. Thompson Drilling Co. No. 1 Waddell, SE SE SE Section 29-3n-7e, pay at 3,034-35 feet and a showing at 3,048-49 feet, acidized with 5,000 gallons, pumped 25 bbls. and a trace of water. Pure Oil Co. No. 2 F. Holman A, C E half NW SW Section 15-2n-8e, pay at 2,999-3,007 feet, acidized with 1,500 gallons, flowed 289 bbls.

Marion County

In Marion County, Harry Blackstock No. 6 M.&I. R.R., NW cor. SW NE NE Section 20-2n-2e, McClosky at 1,954 feet, total depth 2,021 feet, flowed 68 bbls. in one hour through 1½-inch choke; estimated as a 1,000-bbl. well. Magnolia Petroleum Co. No. 31 J. H. Young, NE NW SE Section 20-2n-2e, Bethel sand at 1,763-1,802 feet, shot with 40 quarts, flowed 600 bbls. Magnolia Petroleum Co. No. 32 J. H. Young, SE NE SE Section 20-2n-2e, Bethel at 1,750-94 feet, shot with 50 quarts, flowed 700 bbls. in seven hours; estimated as a 1,480-bbl. well. Magnolia No. 33 J. H. Young, NE SE SE Section 20-2n-2e, Bethel sand at 1,745-84 feet, swabbed 960 bbls. Shell Petroleum Corp. No. 6 Young Heirs, Bethel sand at 1,740-85 feet, shot with 15 quarts, flowed 648 bbls. in 16 hours. Magnolia Petroleum Co. No. 13 D. A. Shanafelt, NE NW NE Section 21-2n-2e, Bethel at 1,850-85 feet, shot with 40 quarts, swabbed 192 bbls. Magnolia Petroleum Co. No. 14 D. A. Shanafelt, Bethel at 1,818-63 feet, flowed 312 bbls. Texas Co. No. 8 J. Chapman, NW NE SW Section 28-2n-2e, Benoist sand at 1,773-1,823 feet, flowed 54 bbls. in three hours, estimated at 378 bbls. per day. W. C. McBride, Inc., No. 1 N. L. Lee, SW NE SE Section 29-2n-2e, Benoist at 1,767 feet, Renault at 1,767 feet, Aux Vases at 1,781 feet, total depth 1,842 feet, pumped 300 bbls. Texas Co. No. 1 Zazarette, SW SW SW Section 33-2n-2e, Benoist at 1,816-59 feet, flowed 48 bbls. in three hours; estimated at 336 bbls. per day. Texas Co. No. 1 C. Lee, NE SW SE Section 33-2n-2e, Bethel sand at 1,861-85 feet, flowed 73 bbls. in three hours, estimated at 511 bbls. per day. Hollingsworth No. 5 Kalkbrenner, CSL SE NE SW Section 5-1n-2e, Benoist at 1,735-70 feet, flowed 350 bbls. Hollingsworth No. 6 Kalkbrenner, SW cor. NE NE SW Section 5-1n-2e, Benoist at 1,729-75 feet, flowed 400 bbls. Ohio Oil Co. No. 7 B. L. Murray, NE cor. NW NW SE Section 7-1n-2e, Fredonia lime top at 1,972 feet, pay at 1,982-2,045 feet at intervals, flowed 203 bbls. naturally in 14 hours. Texas Co. No. 4 Frederick B, SE cor. NE NE Section 8-1n-2e, McClosky pay at 2,051-61 feet, acidized with 2,000 gallons, flowed 70 bbls. in three hours, estimated at 490 bbls. per day.

In Edwards County, Owens & Kinney No. 1 B. B. Hansen, NW NW SE Section 20-1n-14w of second principal meridian, dry and abandoned at 3,404 feet.

In Jefferson County, Carter Oil Co. No. 2 Carl Hall, SE SE NE Section 4-1s-2e, Bethel sand at 1,952-65 feet, shot with 15 quarts, pumped 200 bbls.

In Wayne County, St. Louis Syndicate No. 1 McClain, NW SE SE Section 10-1s-6e, dry and abandoned at 3,300 feet. St. Louis lime was topped at 3,247 feet. This test appears not to have missed any of the formations in the basin, but all were low. Benoist sand, for example, was at 2,972-3,032 feet. All were barren.

In Jefferson County, Benedum-Trees, Inc., No. 1 Interstate Coal Co., NE cor. NW NE SW Section 9-4s-2e, was dry and abandoned at 4,422 feet. It penetrated all the formations down to the Devonian at 4,265 feet.

and continued for 157 feet before the company decided it had nothing there.

In Wayne County, Texas Co. No. 1 J. C. Woodham, C W half NW SW Section 4-3s-7e, had McClosky lime at 3,332-63 feet, total depth, pumped 39 bbls. in 18 hours.

In Washington County, American Seismograph Co. No. 1 Leibrock, NW NW NW Section 24-3s-3w, was abandoned as dry at 1,473 feet. Aux Vases was topped at 1,305 feet.

New Wildcat Operations

In Clark County, Harry Dunn and others No. 1 Medsker, C NE NE Section 7-9n-12w of second principal meridian, was rigging up machine.

In Washington County, Taylor Drilling Co. No. 1 Weike, NE SE NW Section 35-2s-3w, set 8-inch casing at 67 feet. Preston Cochran No. 1 Blankenship, SE SE SW Section 15-3s-3w, cellar and pits.

In Perry County, G. H. Blankenship No. 1 Rheinnecker, NW cor. NE Section 3-6s-4w, moving in standard tools.

In Massac County, Marshall Drilling Co. No. 1 McGee, NE NE NE Section 3-16s-5e, spudded and shut down.

Interesting Outposts

Doctor More No. 1 More, SE NE NW Section 16-3s-5E, in Wayne County, a wildcat, had Benoist sand at 3,020-37 feet, with no showing of oil, and was drilling at 3,140 feet.

In Edgar County, Martin and others No. 1 Sturgell, C NW NE Section 12-12n-11w, was shut down at 800 feet.

In Fayette County, George Parker No. 1 Mary Lange, NW cor. SW SW Section 28-5n-2e, was drilling at 1,700 feet. Sherman and others No. 1 Garver, SE NE NE Section 25-6n-3e, Weiler sand at 1,596-1,612 feet, pumped 80 bbls. the first 14 hours and later pumped 60 bbls. in 8 hours. It was not yet a completion. Total depth was 1,612 feet. Texas Co. No. 2 Sworm, SE cor. NE NW SW Section 30-6n-3e, drilling at 1,370 feet.

In Hancock County, Growe & Cook No. 1 S. M. Talbot, NW cor. SW Section 15-4n-5w of fourth principal meridian, Niagara lime at 481 feet, shut down at 530 feet.

In Jasper County, National Consumers No. 1 Arthur Leamon, NW cor. SW SW Section 4-8n-14w, drilling at 200 feet with portable core drill.

In Macon County, Decatur Oil & Gas Co. No. 1 Cook, NE NW SE Section 21-15n-2e, drilling at 1,700 feet. This will be made a St. Peter sand test, if oil is not found in the upper formations.

In Madison County, Harry Hazlett No. 1 Wetzel, SE SW SE Section 12-5n-6w, shut down at 1,877 feet.

In Montgomery County, R. E. Johnson No. 1 Tuller, SW SW NW Section 7-7n-2w, shut down at 700 feet. Soliday & Sams No. 1 Moon, NE NE SW Section 11-7n-3w, shut down at 1,065 feet. Swords & McDougal No. 1 Bruner, NW NE SW Section 16-10n-1e, shut down at 1,050 feet. W. O. Allen No. 1 Ward, NW NW NE Section 23-12n-5w, shut down at 1,460 feet.

In Sangamon County, Morris and others No. 1 Ray King, NW NE SE Section, was dry and abandoned at 2,254 feet.

In Shelby County, Joe Aylward and others No. 1 E. E. Bickford, NW SW SE Section 7-9n-5e, Glen Dean lime at 1,645 feet, drilling at 1,750 feet. Massad and others No. 1 Sommers, SE SW SW Section 20-10n-1e, spudded and shut down. Clorn and others No. 1 Wabash R.R., C N half N half Section 27-10n-5e, total depth 1,530 feet, hole full of water, running 8-inch casing. Frank Frederick No. 1 Gluge, C N half NE NW Section 34-10n-5e, shut down at 697 feet. Swords & McDougal No. 1 Darst, NW NW NW Section 17-11n-2, cleaning out at a total depth of 1,370 feet. Independent Refining & Producing Co. No. 1 Hackenberg, SE SW SW Section 20-12n-2e, hole full of water at 1,585-95 feet, shut down for orders. Roy Fisher and others No. 1 Brownbeck, SE NE NW Section 25-12n-2e, rig up. Rex Development, Inc., No. 1 O. Odell, NE SE NW Section 20-14n-2e, spudded and shut down.

Warren County, John Menkin No. 1 Charles Simons, SE SE NE Section 11-8n-2w of fourth principal meridian, drilling at 750 feet.

In Bond County, Lindsey Brothers and British American Oil Co. No. 1 Butler, NE NE SW Section 31-4n-2w, total depth 1,678 feet, with a hole full of water at 1,640-59 feet, fishing. Joe Kesl and others No. 1 Meyer, NW NE NW Section 13-4n-2w, drilling at 1,020 feet.

In Richland County, Pyramid Petroleum Co. No. 1 Hauser, C S half SE SW Section 15-4n-10e, pay at 2,997-3,001 feet and 3,006-08 feet, was still being tested. It flowed 253 bbls., 250 bbls., and 160 bbls. on three successive days, then died. A week later it pumped 160 bbls. in 24 hours.

In Clinton County, Kesl and others No. 1 Marbaum, NW NE SE Section 17-3n-3w, was reshot with 25 pounds of solidified glycerin and then put on the pump. It produced salt water with a showing of oil. Nollenkemper & Murphy No. 1 C. M. Kile, SE cor. NE Section 11-3n-3w, was drilling at 370 feet. H. Flannery and others No. 1 Gerdes, NW NW SE Section 3-2n-2w, running casing, total depth 830 feet.

In Wayne County, Thompson Drilling Co. No. 1 Charles Briscoe, C E half SW NW Section 21-2n-7e, drilling at 1,530 feet.

In Marion County, Menhall No. 1 I.C.R.R., SW NE NW Section 8-2n-1e, a Devonian lime test, was shut down at 1,800 feet; Benoist at 1,518 feet, Aux Vases at 1,555 feet, and Fredonia at 1,672 feet.

In Richland County, Leathers and others No. 1 Yonaka, NW SE SW Section 22-2n-14w of second principal meridian, fishing at 2,480 feet.

In Clinton County, Harris and others No. 1 Hago, C S half SE SE Section 18-1s-5w, hole full of water at 955 feet, underreaming 4⅞-inch casing.

In Jefferson County, R. E. Hanon No. 1 Sarah Kell, NW SW NE Section 9-1s-1e, total depth 1,212 feet, hole full of water, shut down for orders. Anderson and others No. 1 Peoples, SW SW NE Section 14-1s-1e, total depth 2,117 feet, shut down for orders; Bethel sand at 2,073 feet, Renault top at 2,114 feet.

In Clay County, Witcher Development Co. No. 1 Fitch, C N half SE SE Section 3-1n-8e, pay at 3,087-95 feet, swabbed and flowed by heads about 200 bbls. of fluid per day. The crew was testing.

In Jefferson County, Brogan & Blair No. 1 Murman, NW NE NE Section 15-2s-1e, shut down for orders at 2,032 feet. Transcontinental Oil Co. No. 1 S. W. Carroll, SE NE SE Section 16-2s-1e, drilling at 690 feet. Magnolia Petroleum Co. No. 1 Oslager, SW SW SW Section 22-2s-1e, McClosky at 2,252-57 feet, total depth 2,259 feet, hole full of water, swabbing through tubing. Midfield Oil Co. No. 1 R. T. Erving, SW cor. SE SE Section 24-2s-1e, total depth 2,333 feet, waiting for casing; McClosky topped at 2,305 feet. Heenan & Coe No. 1 Kobejeski, NW cor. Section 27-2s-1e. Bethel sand at 1,990 feet, Aux Vases at 2,080 feet, will run casing. Lunda and Winkler No. 1 Martin, NW NE SE Section 27-2s-1e, drilling at 2,077 feet, Bethel topped at 2,050 feet. Doctor More and others No. 1 Novak, SW NE SW Section 28-2s-1e, shut down at 2,280 feet.

In Washington County, Jett & Skidmore No. 1 Hoelschner, SW NE SE Section 25-2s-5w, Bethel sand at 1,097-1,108 feet, dry; shut down at 1,125 feet for orders.

In Wayne County, New Penn Development Corp. No. 1 J. L. Wagner, NW SW NE Section 30-2s-9e, saturated cores at 3,306-07 feet and 3,308-13 feet, total depth, acidized with 1,000 gallons, swabbing. Carl Robinson No. 1 D. H. Felix, SW SE SE Section 27-2s-8e, Benoist sand at 3,149 feet, Renault at 3,195 feet, shut down at 3,205 feet to make repairs.

In Washington County, J. L. Henderson, Jr., No. 1 Korneggerm, NE NE NW Section 8-3s-1w, underreaming 8-inch to 960 feet.

In Hamilton County, Helmerich & Payne No. 1 Hamilton County Land Bank, SE SE SE Section 6-4s-7e, Ste. Genevieve lime at 3,307 feet, drill pipe stuck at 3,312 feet, casing split 500 feet below the surface.

In Jefferson County, Palacine Oil Co. No. 1 Inland Steel Co., C SE NE Section 29-4s-2e, spudded.

In Randolph County, Chlorins & Co. No. 1 Anderson, NW NE NW Section 12-4s-6w, total depth 1,315 feet, fishing for tools. Badger Oil Co. No. 1 Schroeder, SW NW NW Section 27-6s-6w, coring at 2,140 feet.

In White County, Pyramid Petroleum Co. No. 1 Gilbert Wadem, SE NE NE Section 4-7s-8e, Fredonia lime at 2,987 feet, total depth 3,031 feet; will run Halliburton test.

In Jackson County, Ben Banner No. 1 Dean, NE NE SE Section 33-7s-3w, shut down at 1,210 feet.

In Gallatin County, Bailey & Lucas No. 1 Logan, SW cor. SE NE NE Section 21-8s-8e, drilling at 1,955

(Continued on Page 83)

400-Barrel Well Completed in Birk City in Quiet Week

OWENSBORO, Ky., Jan. 30.—The Birk City pool in Daviess County came through with a 400-bbl. well in the past week, and two other completions that were not so prolific. No completions were reported from the Henderson County side of the pool, but one new operation was started. The Major Oil Co., which drilled into the McClosky lime in its No. 2 Mrs. Carrie Long, in Daviess County, found it barren and plugged back to test the Jett sand.

Following are the completions of the week in the district, and the new operations started:

Butler County, South Hill district: W. E. Ellison and others No. 1 E. E. Baxter, moving in; W. E. Ellison and others No. 1 Warren & Pendley, dry hole, total depth 554 feet.

Daviess County, Birk City district: Snowden & McSweeney No. 4 Mrs. Helen B. Fisher, 150-bbl. well, in McClosky lime, total depth 1,903 feet; Ohio Oil Co. No. 3 Oscar Lively, 400-bbl. well in McClosky lime, total depth 1,899 feet; Major Oil Co. No. 2 Mrs. Carrie Long, total depth 1,912 feet, plugged back to 1,261 feet and shot in Jett sand; no estimate of its potentiality; Aetna Oil Service Corp. No. 3 Henry Miller, an abandoned location; W. E. Hupp and Snowden & McSweeney No. 10 Mrs. L. Taylor, good for 25 bbls. a day from the McClosky, total depth 1,891 feet.; Major Oil Co. No. 5 Mirilda Wahl, a location. Utica district: Daugherty & Ellis No. 2 N. C. Howard and Rex O'Flynn, dry hole, total depth 1,665 feet; O. D. Vickers and others No. 2 William Johnson, 60-bbl. well in Bethel sand, total depth 1,459 feet. Three miles southeast of Owensboro: Mocarz Oil Co. No. 1 L. E. Whitely, moving in.

Henderson County, Birk City district: Sun Oil Co. and Kentucky Natural Gas Co. No. 2 Ezra Allgood, rigging up. Corydon district: Sun Oil Co. and Kentucky Natural Gas Co. No. 1 George Trigg, location.

McLean County, Buel district: Fred Phillips and others No. 1 J. E. Arnold, dry hole, total depth 2,200 feet. Johnson School district: W. H. Hodnett and others No. 1 Les Iglehart, dry hole, total depth 2,372 feet. East Livermore district: W. K. Snyder and others No. 1 Lloyd-Jackson, an old gas well drilled deeper, abandoned at 1,464 feet.

Muhlenberg County, Belton district: Fred Phillips No. 1 Clarence Boggess, flowed 30 bbls. and swabbed 100 bbls. to date. Will acidize, total depth 1,541 feet.

Ohio County, Adaburg district: Nollem Oil & Gas Co. No. 13 Vincent Crowe, rigging up. Oklahoma district: Lang & Lewis No. 3 C. T. Westerfield, 35 acres, drilling at 300 feet.

EASTERN KENTUCKY

ASHLAND, Ky., Jan. 30.—One oil well and one gas well were reported completed in Eastern Kentucky in the past week as drilling activities drop to a new low point for the past few months.

The Kentucky West Virginia Gas Co. completed No. 5249 on the Alie Ward farm on Coldwater Fork in Martin County at a total depth of 2,546 feet in shale. The well is producing 189,000 cu. ft. of gas per day.

Heath & Co. completed No. 5 on the S. W. Steele land on Duck Fork in the Ida May district of Lee County. The well started at 25 bbls. of oil daily. In the same district Sherman & Oaks are shut down at 200 feet. The well, located on an abandoned railroad right of way, will be idle pending decision on a suit filed by Petroleum Exploration Co.

In the Burning Fork district of Magoffin County. Rough River Corp. was drilling at 650 feet. Tools are still in the hole and the operator is trying to drill by them to get them out.

The Inland Gas Corp. made locations for two wells in Knott County, but operations have not yet started.

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By
GEORGE WEBER

Producer in Magnolia, Ark., Good for 2,400 Bbls. a Day

SHREVEPORT, La., Jan. 30—Routine field development continued in the tri-state area this past week, with little of importance in either field or wildcatting activity. The Lafayette County, Arkansas, wildcat test continued to attract considerable attention, but chances for its success this week look less favorable than before.

The Cotton Valley field of Webster Parish, Louisiana, the most active drilling area at present, saw new developments in the D sand on the south edge of the field. Two deep tests outside the field, in Webster Parish, one at Shongaloo and the other at Sibley, are currently gaining attention.

In South Arkansas fields, the Schuler pool, with seven new completions in the previous week and two last week, has fewer rigs drilling at present than for many weeks. The Magnolia field of Columbia County promises to furnish South Arkansas with its next volume drilling activity, with rigs being moved into the field weekly. The past week saw completion of a very good producer in that pool.

Lafayette Wildcat

The swabbing of salt water in the Shell Petroleum Corp. and Ohio Oil Co. No. 1 Warren, Lafayette County, Arkansas, wildcat in the Stamps area, makes the possibilities of making a commercial producer more remote this week. The test was drilled on top of a known structure, but, although porosity and saturation favor oil production, the permeability is too low to make a well, from all indications.

A drill-stem test at 7,155-7,220 feet was unsuccessful. With the tool open for one hour, using quarter-inch chokes top and bottom, the recovery consisted of 4,850 feet of drilling mud with no show of oil, gas or salt water. A second test was attempted at 7,169-7,220 feet and 230 feet of mud was recovered.

Tubing was run, the well washed, and swabbed down to 5,600 feet and shut in over night. The next morning the fluid in the hole stood 3,000 feet from the top. Swabbing operations continued, and, late in the week, fluid was down to 150 feet from the bottom of the hole. The fluid consisted of 95 per cent salt water.

Magnolia Completion

The Magnolia field of Columbia County is gaining in importance, with the completion of good wells in the thickening section of lime to the south of discovery. The past week's completion was Atlantic Refining Co. No. 1 F. Barnett. The well topped porous lime at 7,410 feet and saturated lime at 7,478 feet and cored saturation to 7,549 feet. Casing was set at 7,499 feet.

On the first hour gauge the well made 147 bbls. through three-fourths inch choke, with tubing pressure of 800 pounds and casing pressure of 900 pounds. The second hour's gauge showed 189 bbls. through the same sized choke and with tubing pressure at 825 pounds and casing pressure 925 pounds. The third and fourth hour gauges were 101 and 111 bbls. respectively, made through a half-inch choke, with tubing and casing pressures standing at 825 and 1,200 pounds respectively. The well was shut in during the week to await the construction of storage.

Schuler field activity dropped off further with the completion of two more producers. A total of nine new wells have been brought in during the past two weeks, with no new drilling operations started. The field is approaching complete development of all proven acreage unless a new producing horizon is discovered.

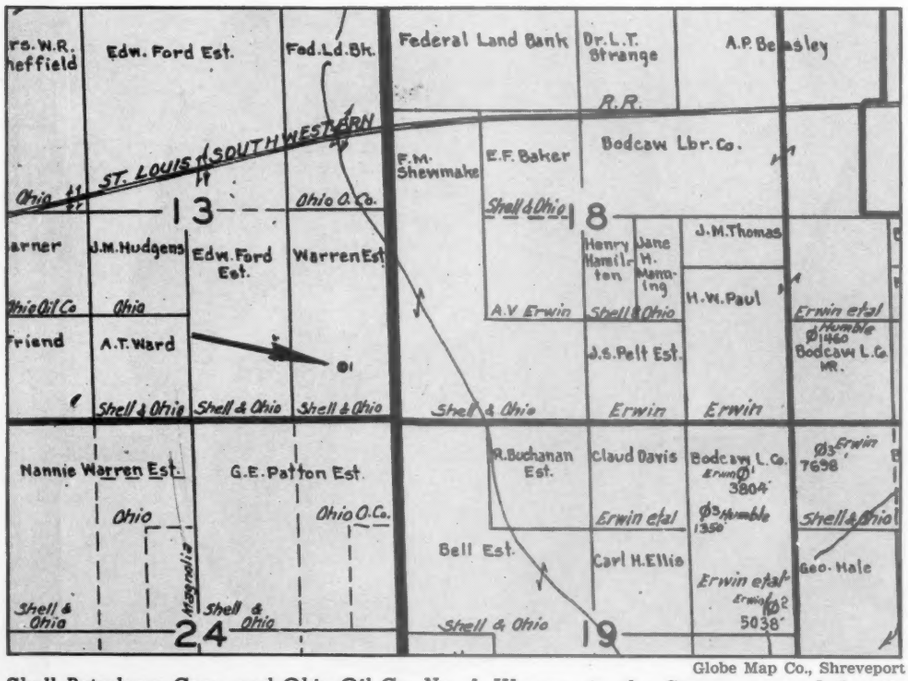
Two important south and southeast edge tests in the Cotton Valley field found the lower Marine sands. The Oliphant Oil Co. No. 1 Gray & Stevens, C SE SW Section 35-21-10, found oil in the D sand and gas and distillate in the Bodcaw section. The Oliphant test is less than a mile east by northeast of the D sand discovery, Midstates Oil Corp. No. 1 Welori Unit, but it is up structure from the latter well.

The new test is the highest thus far to find good oil saturation in the D sand. The lower Marine sands were found in the well as follows: A sand, 8,118-25 feet; B sand, 8,313-21 feet; C sand, 8,355-68 feet; D sand, 8,397-8,420 feet; Bodcaw sand, 8,487-8,535 feet; porous Bodcaw, 8,487-8,517 feet. Total depth is 8,600 feet, and a string of 7-inch casing has been run to 8,577 feet.

Still further to the east, lying one-half mile due west of the Stanolind Oil & Gas Co. No. 1 Pardee, oil discovery well in the Bodcaw at Cotton Valley, the Woodley Petroleum Co. No. 1 J. O. Couch also reached the pay sands in the lower Marine. The D sand, showing oil was cored at 8,450 feet. A 10-foot core of oil-saturated sand was recovered and the test was drilled to the Bodcaw, which was topped at 8,543 feet. The top 15 feet of the Bodcaw sand showed gas and distillate, and the well was still drilling in the section late this week.

Two Webster Parish wildcats topped important formations during the week. In the Shongaloo area north of Cotton Valley, the Magnolia Petroleum Co. No. 4 Branton topped the Davis sand of the lower Marine formation, showing some heavy oil from 8,450 feet down. At latest reports it was drilling below 8,900 feet. The lower Marine was topped at 7,668 feet and the Bodcaw at 8,190 feet in this deep test.

In the Sibley area, in the southeast section of the parish, the Union Producing Co. No. 1 Walker Unit cored the top of the Pettit lime at 6,665 feet, and is drilling ahead below 6,850 feet and nearing the Travis Peak section.



Globe Map Co., Shreveport

Shell Petroleum Corp. and Ohio Oil Co. No. 1 Warren, in the Stamps area, Lafayette County, Arkansas, found porosity and saturation in the Smackover lime at 7,173 feet, but poor permeability. The test is being deepened beyond 7,220 feet

Estimated Production

Estimated daily gross production all companies week ending January 28:

NORTH LOUISIANA

	Barrels
Bellevue	650
Caddo light	4,075
Caddo heavy	2,650
Converse	510
Cotton Valley heavy	100
Cotton Valley light	*11,430
Cross Lake	2,510
De Soto and Red River	1,160
Elm Grove	300
Haynesville	2,830
Holly	70
Homer	2,650
Lisbon	7,690
Pleasant Hill	80
Rodessa	28,420
Sarepta-Carterville	†425
Sligo	835
Sugar Creek	290
Urania	2,635
Zwolle	2,530
Total	71,890

SOUTH ARKANSAS

Buckner	1,310
Champagnolle	1,700
El Dorado	1,750
Lisbon	250
Magnolia	2,345
Miller County	340
Nevada	610
Rodessa	4,540
Schuler	18,590
Smackover light	1,965
Smackover heavy	15,345
Stephens	515
Troy	1,000
Urbana	1,100
Village	490
Total	51,850

Texas side of Rodessa field 30,745 bbls. daily.

*4,430 bbls. is distillate.
†100 bbls. is distillate.

Kansas Developments

By
DAL DALRYMPLE

Campbell Productive Limits Extended One Mile to South

The Campbell pool in Rice County, Kansas, was extended 1 mile southward the past week at Cities Service Oil Co. and associates No. 1 DeWitt, CSL NE Section 33-19-9w, which made daily potential of 1,540 bbls. of oil. It topped Arbuckle lime at 3,175 feet and was bottomed at 3,195 feet. Location is 1½ miles east of the Chase pool. Operators sharing in the community block on which the well was drilled include the Shell, Continental and Sinclair Prairie companies.

Extension of the one-well Morel pool in Graham County appeared imminent at Continental Oil Co. and Cities Service Oil Co. No. 1 Drumm, SE SE NE Section 16-9-21w, three-fourths mile west of the discovery producer. Oil was showing in Arbuckle lime at 3,684-99 feet, total depth. Seven-inch casing was set and it was being standardized preparatory to drilling in and testing.

The Buhler pool in Reno County was extended one-half mile to the southwest at Westgate-Greenland Oil Co. No. 1 Hagerty, NE NE SW Section 36-22-5w. Oil rose 1,200 feet in the hole in three hours after cement plug was drilled in 5-inch casing set at 3,926 feet. Simpson sand was found at 3,928-31 feet. Operators were preparing to test. Completion of this well as a producer will necessitate offsets by Amerada Petroleum Corp., Sinclair Prairie Oil Co. and the Westgate-Greenland company.

The Leesburgh pool in Stafford County was extended one-fourth mile northwestward at Continental Oil Co. No. 1 McCune, SW SW NE Section 12-25-13w, the second producer in the field. It made potential of 2,022 bbls. of oil in 24 hours from Arbuckle lime at total depth of 4,091 feet.

Continental Oil Co. No. 1 Lipprand, CNL NE NW Section 35-14-13w, extended the Letsch pool in Russell County one-fourth mile southwestward. It was bottomed at 2,969 feet in Lansing-Kansas City lime and made potential of 1,915 bbls. of oil.

Amerada Petroleum Corp. No. 1 Kruckenberg, C NE NE Section 14-19-15w, wildcat northwest of Great Bend in Barton County, hailed as a probable pool opener two weeks ago, was deepened to 3,622 feet and water rose 2,600 feet in the hole. It previously had had some oil showing in Arbuckle lime found at 3,572-3,585 feet.

Sinclair Prairie Oil Co. No. 1 Prusa, CSL NE Section 20-16-11w, one-half mile northwest of production in the Prusa pool, Barton County, made potential of 1,253 bbls. of oil from Arbuckle lime at 3,289-3,305 feet.

Stafford County

The prolific Zenith pool in Stafford County continued to set a fast pace for other Kansas areas, six producing wells being completed in that area the past week.

E. H. Moore, Inc., No. 3 Johnson, NW SW NE Section 13-24-11w, found Misener sand at 3,770-92 feet, total depth 3,793 feet, flowed 207 bbls. of oil in four hours and made potential of 2,756 bbls.

J. E. Crosbie, Inc., No. 8 Johnson, NE NE SW Section 13-24-11w, flowed 250 bbls. of oil in three hours and was rated potentially at 1,730 bbls., after drilling to 3,796 feet, total depth, and plugging back to 3,795 feet. Misener sand was found at 3,790-95 feet.

Stanolind Oil & Gas Co. No. 3 Hartnett, SW SE NW Section 13-24-11w, had Misener sand at 3,764-86 feet, total depth, flowed 133 bbls. of oil in four hours and made potential of 1,272 bbls.

Same company's No. 4 Hartnett, SE SE NW Section 13-24-11w, made daily potential of 1,262 bbls. of oil, after flowing 111 bbls. in four hours. It penetrated Misener sand at 3,771-89 feet, total depth.

Sinclair Prairie Oil Co. No. 8 Krey, SW SE NE Section 14-24-11w, had Misener sand at 3,778-3,803 feet, was bottomed at 3,804 feet, flowed 216 bbls. of oil in seven hours and made daily potential of 1,286 bbls.

Pure Oil Co. No. 13 Krey, NW NE SE Section 14-24-11w, was completed in Misener sand at 3,785-3,805 feet, total depth, for daily potential of 1,672 bbls. of oil. It flowed 148 bbls. in the first four hours.

New operations in Stafford County: E. H. Moore, Inc., No. 3 Johnson, SW NE NE Section 13-24-11w, building rotary rig; Stanolind Oil & Gas Co. No. 9 Hartnett, SW NW NW Section 13-24-11w, location; Continental Oil Co. and others No. 1 Russell, SW SW NE Section 13-25-13w, wildcat, moving in material.

Estimated Daily Production

Estimated daily production for Kansas for the week ending January 28, and for the preceding week, was as follows:

	Barrels	
	Jan. 28	Jan. 21
Oxford City	900	925
Burrton	8,050	8,525
Ritz-Canton	3,925	3,950
Graber	2,700	3,150
Hollow-Nikkel	1,675	1,725
Lerado	650	800
Voshell	1,850	1,875
Wellington	2,000	2,275
Ellsworth County:		
Lorraine	1,525	1,900
Other pools	1,290	1,395
Rice-Barton counties:		
Bloomer	1,775	2,375
Chase	4,425	4,075
Geneseo	3,825	3,975
Raymond	775	750
Silica	10,375	11,200
South Silica	2,075	2,110
Keesling	875	850
Miscellaneous Rice	8,530	8,140
Miscellaneous Barton	7,550	11,010
Wherry	2,950	3,375
Russell County	22,050	21,475
Sedgwick County	3,425	4,000
Ellis:		
Bemis	3,850	4,350
Miscellaneous	4,320	3,910
Kingman County	560	560
Stafford County	5,600	5,496
Greenwood County	8,850	8,900
Butler County	19,325	19,750
Other fields	12,875	12,389
Total Kansas	148,575	155,200

Rice County

Frank Hollow & Bridgeport Machine Co. No. 1 Hohl Estate, NW NW NE Section 3-18-10w, wildcat east of the Stumps area in northwestern Rice County, had a hole full of water and was abandoned at 3,326 feet, total depth. It found Lansing lime at 2,955 feet, Arbuckle lime 3,312 feet.

Derby Oil Co. No. 5 Lewis, SW cor. Section 7-18-7w, Geneseo field, topped Arbuckle lime at 3,209 feet, was bottomed in lime at 3,214 feet, pumped 722 bbls. of oil eight hours and made potential of 2,165 bbls.

Continental Oil Co. No. 5 Meyer, SW SE SW Section 30-18-7w, was building rotary rig. Texon Oil Co. No. 2 Johnson, NW SW SE Section 10-20-9w, was building rotary rig.

Barton County

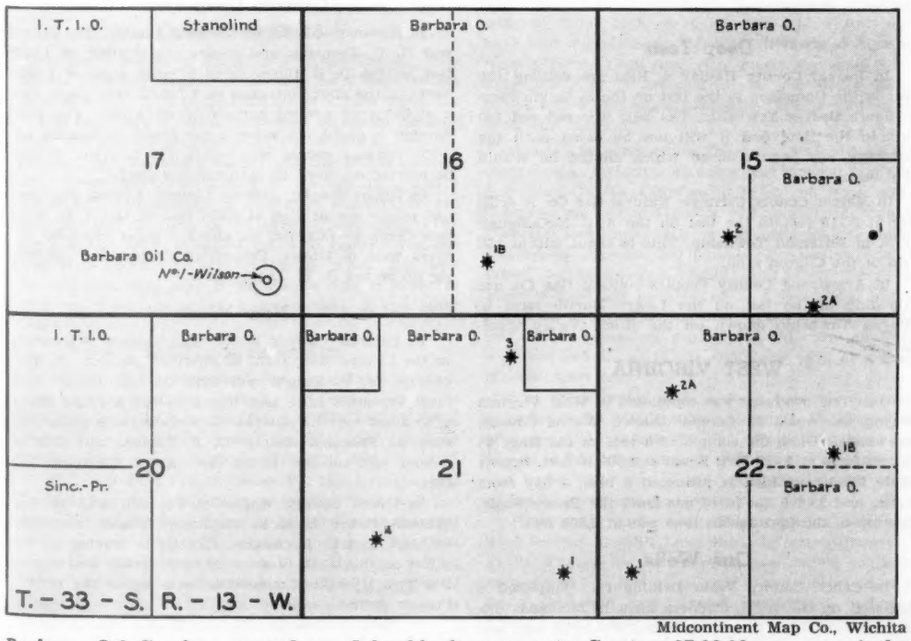
Sinclair Prairie Oil Co. completed another producer in the new Prusa pool, Barton County, at No. 1 Seyfert, NE cor. Section 29-16-11w. After penetrating Arbuckle lime at 3,358-62 feet, total depth, it pumped 703 bbls. of oil in eight hours and made daily potential of 2,110 bbls.

Stanolind Oil & Gas Co. No. 14 Panning, CNL SW SE Section 10-20-11w, on an island in the Arkansas River, about midway between the Silica and Ellinwood pools, was completed for potential of 2,244 bbls. of oil after pumping 748 bbls. in eight hours. Production was from Arbuckle lime at 3,276-83 feet, total depth.

Cities Service Oil Co. No. 2 Bauman, SW NW SW Section 6-16-13w, South Trapp area, topped Arbuckle lime at 3,399 feet and was dry and abandoned at 3,413 feet, total depth.

Central Petroleum Co. and associates No. 1 well, SE SW SE Section 17-16-13w, wildcat south of the South Trapp pool, was moving in material. Kaiser &

(Continued on Page 74)



Midcontinent Map Co., Wichita

Barbara Oil Co. has started an Arbuckle lime test in Section 17-33-13w, west of the Medicine Lodge pool in Barber County, on an Indian Territory Illuminating Oil Co. farm-out

Eastern Field Report

By STAFF CORRESPONDENT

Lower Eastern Fields Held Up by Snow Storms and Ice

PITTSBURGH, Pa., Jan. 30.—A fairly large gas well was completed in Wetzel County, West Virginia, by the Manufacturers Light & Heat Co. on the Ralph Montgomery farm in Proctor district. The total depth was 2,198 feet, with the top of the Maxton sand at 2,147 feet, and a gauge of 8,500,000 cu. ft. per day at 2,178-98 feet. The Pittsburgh Coal was topped at 1,162 feet.

The deep sand tests on Chestnut Ridge in Fayette County, Pennsylvania, were delayed by severe gales and ice storms, yet all made progress. In Springhill Township, about 1.1 miles north of the state line, Frank Fairman, contractor, recovered tools lost about 30 feet off bottom in the test of the L. J. Houze Convex Glass Co. on the Paul Dunham farm and cleaned the hole out to bottom. As soon as the tools were jarred loose, the gas, struck at 7,610 feet and trapped back of the tools, raised the tools in the hole kinking the line but without damage. The original gauge of gas about 53,000 cu. ft. appears unchanged. As soon as weather conditions permit access to the lease, drilling will be resumed.

Nine miles north of Chestnut Ridge in South Union Township, the New Penn Development Co., William E. Snee and others ran casing in the test on the Indian Creek Coal & Coke Co. lease and landed it in the chert of the Onondaga at 6,925 feet. Drilling will be resumed as soon as the cement sets.

In North Union Township on this anticline, Wasson & Co. ran a string of 7-inch casing to bottom in the test on the J. H. Sorg farm, setting it at 6,931 feet, the cherty zone of the Onondaga. As soon as weather conditions permit, drilling will be resumed.

All three of these tests are of great importance. The one on the Paul Dunham farm appears over 1,100 feet structurally lower than the discovery well on the Summit Hotel (Heyn) lease and has a gas pay and without any water. If it becomes a commercial well, much new drilling will be started. The test on the Indian Creek Coal & Coke Co. is evidently close to the drag of a fault as the Marcellus section thickened 100 feet and the Tully lime was lower than the gas well on the Piedmont Coal Co. tract. It has the same subsea level as the discovery well. The test on the J. H. Sorg farm appears about 55 feet lower than the Summit Hotel No. 1 but in five tests to the Lower Devonian on this structure edgewater conditions were lacking.

The new line of the Carnegie Natural Gas Co. joining their Greene County, Pennsylvania, main line with the new development on Chestnut Ridge, is expected to be completed within the week. A line from the Summit Hotel No. 2 gas well has been laid to the new gas main and the gas from the No. 1 will also go to this line. The new line is expected to have a capacity of 25,000,000 feet a day and the wells' pressures of close to 3,000 pounds will obviate the necessity of any compressors.

SOUTHEAST OHIO

The best producer for the week was the test of Rutledge, Mossholder and others on the Mrs. Ray Carle farm in the NE quarter of Section 22, Perry Township, Coshocton County. It was drilled in the Clinton sand to a total depth of 3,120 feet and produced 30 bbls. the first day after shot.

In Athens County A. D. Townsend completed No. 6 Jacob Niggemeyer farm, near Shade, in Section 11, Lodi Township, in the second Berea at 1,728 feet. It is a gas well gauging 430,000 cu. ft. a day with a showing of oil. In Section 25, Athens Township, Clark and others completed No. 3 Roy Radford, near Fisher, in the first Berea sand at 1,326 feet. It gauges 134,000 cu. ft. a day after shot.

In Monroe County R. W. Erley and others drilled a test on the S. T. Cline farm in the NE quarter of Section 12, Washington Township, through the Squaw sand to 1,575 feet and it was a dry hole.

In Perry County the Ohio Fuel Gas Co. completed a second test on the George M. Jones farm in the NW quarter of Section 20, Monroe Township, in the Clinton sand, total depth 3,778 feet. It is a gas well gauging 800,000 cu. ft. a day.

In Washington County Briggs and others completed a test on the Dayton Mindling farm in Section 7, Fairfield Township, in the Salt sand bottomed at 941 feet. It is a gas well gauging 262,000 cu. ft. a day.

SOUTHWEST PENNSYLVANIA

Three gas wells and one dry hole were reported from Southwest Pennsylvania. In Indiana County the Equitable Gas Co. completed No. 3242 D. W. Rarigh, in South Mahoning Township, as a small gas well. The Little Freeport Coal was at 346-349, Murraysville 1,387-1,442, Sheffield 3,264-85, Bradford 3,474-3,515, First Kane 3,547-70, second Kane 3,665-85, with 44,000 cu. ft. a day from the Murraysville and Berea. In the same township the Equitable company drilled a test, No. 3244 Savings & Trust Co. lease, to 3,803 feet and it was a dry hole.

In Washington County the Keystone Drilling Co. completed a gas well on the Frank Grego farm in North Strabane Township through the Fifth sand. It gauged 38,000 cu. ft. a day, with a rock pressure of 648 pounds.

In Chartiers Township, Washington County, the Cannonsburg Iron & Steel Co. completed a test on its fee through the Fourth sand to 2,571 feet and it is a gas well gauging 70,000 cu. ft. a day.

Greene County

In Morris Township McVay and others are down 1,675 feet in the test on the Elmas Laughman farm. O. I. Dille is rigging up No. 2 on the Ellsworth Beckham farm. In Richhill Township Burleigh Wright has the rig up on the Strawn heirs lease. In Franklin Township J. B. Myers and others are rigged up on the Sallie Morris farm.

Deep Tests

In Beaver County Hanley & Bird are drilling 150 feet in the Onondaga in the test on the S. Calvin farm in South Beaver Township. The hole was reduced 140 feet in the lime and it will not be cased until the Oriskany has been reached which should be within the week.

In Mercer County Carnegie Natural Gas Co. is drilling at 5,119 feet in the test on the A. S. McCullough farm in Jefferson Township. This is about within 100 feet of the Clinton sand.

In Armstrong County Peoples Natural Gas Co. are spudding in the test on the Lowry Martin farm in Wayne Township shown on the Rural Valley Quadrangle.

WEST VIRGINIA

Only one producer was completed in West Virginia during the week. In Ceredo district, Wayne County, the Sinclair Glass Co. completed a test on the Mary F. Brown farm at 2,428 feet; Berea at 1,500-40 feet, Brown shale 1,755-2,408 feet. It produced 2 bbls. a day from Berea and 23,500 cu. ft. of gas from the Brown shale. The top of the Corniferous lime was at 2,408 feet.

Gas Wells

In Cabell County Vesta Drilling Co. completed a gas well on the W. S. Childers farm in McComas district at 3,275 feet; Brown shale at 2,900-3,275 feet, and 183,000 cu. ft. of gas at 3,005 and 3,143 feet.

In Calhoun County the Foreman Oil & Gas Co. completed a second test on the J. W. Conley farm in Washington district as a gas well at 1,973 feet; Big Injun at 1,882-1,900 feet, with a show of gas at 1,832 feet and 200,000 cu. ft. before the shot at 1,880-82 feet.

In Gilmer County, Pittsburgh & West Virginia Gas Co. completed a second test on the Henry Simmons farm in Glenville district at 1,860 feet in the Shale below the Big Injun sand and it is showing 640,000 cu. ft. a day.

Oriskany Gas Field

Two wells were completed in the Oriskany gas field in Kanawha County and the extension into Jackson County. In Poca district, Kanawha County, United Fuel Gas Co. completed a well on the Nancy Carney and others farm at 5,027 feet with a final gauge of 14,307,000 cu. ft. a day.

Near the Kanawha County line Godfrey L. Cabot, Inc., has a completed gas well on the Walker and Jones lease (E. C. Crane) with the Corniferous lime topped at 4,872 feet, Oriskany 5,122 feet, and at 5,134 feet, a gauge of 2,500,000 cu. ft. a day. There a pin was broken and the bit lost, which is now being fished for. It will be deepened. It is 1,600 feet southwest of the United Carbon Co. test on the Elizabeth Ward Perkins farm.

In Poca district, Kanawha County, United Fuel Gas Co. made a location on the C. A. Slater and others tract. Here the United Carbon Co. will drill on the A. H. Campbell farm, elevation 820 feet. Godfrey L. Cabot, Inc., made a location on the D. Holmes Morton farm.

In Poca district Godfrey L. Cabot, Inc., topped the Corniferous lime at 4,872 feet, set casing at 4,900 feet and has resumed drilling in the test on the Putnam Co. lease. The Spartan Gas Co. topped that formation at 4,985 feet in the second test on the Ernest Fisher and others farm. The final gauge of the West Virginia Gas Corp. well on the J. H. Burdette farm was 2,943,000 cu. ft. a day after the shot.

Outside Deep Tests

In Ravenswood district, Jackson County, Joe Rubin and N. P. Johnston and others are drilling at 1,600 feet on the D. P. Curry farm 2 miles west of Lockhart. In the first Salt sand at 1,140-52 feet there was a showing of several barrels of oil a day. The production is about 6½ miles away from the nearest oil well. Ten-inch casing was set at 716 feet and it will be carried on down to the Oriskany sand.

In Ripley district, Jackson County, Everett Starcher and others are drilling at 1,650 feet on the R. R. Boggess farm. In this district, about 6 miles south 20 degrees west of Ripley, Columbian Carbon Co. has the rig up on the G. W. Lathey farm.

New Work

In Calhoun County W. H. Bickel made a location on the Luerna Barr farm in Sherman district. In this district W. V. Knight will drill on the Jasper Ball farm, elevation 1,015 feet. Gunn, Gainer & Gunn made a location on the Luerna Barr farm, elevation 695 feet. In Sheridan district D. A. Cronin will drill a second test on the Bruce Bell farm, elevation 772 feet.

In Cabell County Wade Gas Co. will drill on the William Baker farm in McComas district, elevation 685 feet, and R. H. Adkins, trustee, is moving in for a test on the U. G. Bledsoe farm. In Grant district the Big Two Mile Gas Co. is building a rig on the W. W. Connor farm.

In Gilmer County, Pittsburgh & West Virginia Gas Co. No. 7654 Alexander Lyon farm, on Barnett

(Continued on Page 68)

Texas and Louisiana Gulf

By NEIL WILLIAMS

New Pools, Deeper Pays and Extensions Mark Busy Week

HOUSTON, Tex., Jan. 30.—The discovery of two pools, new sand discoveries and extensions to established fields, provided the Gulf Coast district with an interesting week of developments.

In coastal Louisiana, Humble Oil & Refining Co.'s deep drilling program on the shallow Potash dome in Plaquemines Parish resulted in the discovery of prolific production on the southwest flank of the structure as No. 37 Orleans Levee Board, Section 13-18s-15e, flowed 23 bbls. of 28-gravity oil per hour through a quarter-inch choke. Tubing pressure was 955 pounds and casing pressure 200 pounds. The test was drilled to a total depth of 8,070 feet, and casing was cemented at 8,061 feet, after a 20-minute drill-stem test at 8,041-70 feet recovered 5,500 feet of oil.

Potash is a shallow salt structure that was found in 1937 by Humble Oil & Refining Co. The discovery well, No. 11 Orleans Levee Board, was a small oil well from the Pliocene sand topped at 688 feet and cored to a depth of 696 feet. The company has drilled approximately 40 shallow tests which outlined the dome and this program was followed by deeper drilling around the flanks. The present well is the second deep test to be drilled on the structure.

In the South Roanoke field, Jefferson Davis Parish, Union Sulphur Co. No. 2 T.R.S. Farm Co., Section 23-10s-4w, perforated casing at 10,108-20 feet, and was completed for an initial production of 160 bbls. of 52.4-gravity distillate daily, flowing through a bottom-hole choke under a working pressure of 350 pounds. This well is about a half mile northwest of the company's first test which is producing at 8,560-63½ feet, and about 2½ miles northwest of Continental Oil Co.'s deep test which opened a new sand below 9,800 feet.

A second producer for the West Lake Verrett field, St. Martin Parish, seemed assured as Shell Petroleum Corp. prepared to make a drill-stem test at No. 2 Jeanerette. Sand, showing oil, was topped at 8,046 feet, and cored to a total depth of 8,057 feet. Sidewall cores at 6,986, 6,984, 6,980, and 7,548 feet showed gas sand. Location is in Section 14-14s-12e.

Lake Long Field

In the Lake Long field, La Fourche Parish, Fohs Oil Co. is having trouble completing No. 7 State, which is attempting to open production in a new sand. On a drill-stem test through perforated casing at 9,862-68 feet, 270 feet of drilling mud, cut with gas, was recovered, and working pressure built up to 780 pounds. The casing wes reperforated at 9,876-82 feet, and a 2½-minute test showed a maximum pressure of 425 pounds, and 30 feet of 47.2-gravity distillate. The perforations were squeezed off with cement and the well is to be retested the first of the week. The well is a quarter mile east of production and it failed to find the 9,400-foot sand which produces in the other wells.

1,000-Foot Extension

The North Crowley field was extended 1,000 feet east as Humble Oil & Refining Co. completed No. 3 Habetz for an initial production of 798 bbls. flowing through a quarter-inch choke. The well was completed through perforated casing at 8,198-8,203 feet.

In Terrebonne Parish, Texas Co. No. 1 Continental Land & Fur Co., a deep test in Section 29-18s-14e, has been halted at a total depth of 12,483 feet as the drill stem became stuck. The pipe was shot at 11,050-54 feet, and the company is now cutting and pulling same. This test has attempted to blow out several times below the 11,000-foot horizon and the hole is expected to be sidetracked and drilled deeper.

The completion of Sid Richardson No. 1 Haas Investment Co. which opened the first Wilcox sand production in coastal Louisiana on the Eola prospect, Avoyelles Parish, has been followed by an extensive leasing and geophysical campaign and several large blocks are reported to have been taken during the past week. A potential test of the well showed it capable of producing at the rate of 35 bbls. of oil per hour through a quarter-inch choke, which is considerably more than the original gauge. Recent leasing information shows much activity around the South and East Oakdale areas in Allen Parish; North Marksville area, Avoyelles Parish, Glenmore area, southern Rapides Parish, and the Southwest Singer and Merryville areas in Beauregard Parish.

Texas Coastal Fields

Along the Texas Coast, Sun Oil Co. continues to test No. 1-A Lutcher Moore Lumber Co. which opened production on the Echo prospect in Orange County. Casing was perforated in the Frio formation at 8,995-9,010 feet, and the well is flowing into the burning pits through a quarter-inch choke, making an estimated 6 bbls. of fluid per hour of which 10 per cent is salt water, 25 per cent basic sediment and paraffin and 65 per cent 40-gravity oil. Tubing pressure is 1,200 pounds and casing pressure zero. The company will continue to test the well for several days before a decision is made as to whether it will be reworked in an attempt to eliminate the salt water and emulsion content.

On the southeast flank of the Esperson dome, Liberty County, General Crude Oil Co. No. 1-B Esperson, 1½ miles from production in the Angus McNeil Survey, opened production from a deep sand when the well flowed 21 bbls. per hour through a three-sixteenths inch choke under a tubing pressure of 865 pounds. Gravity of the oil tested 40 degrees. Sand showing gas was topped at 7,310 feet, and sand and shale showing oil was cored to a total depth of 7,341 feet. Casing was cemented at 7,341 feet, and the cement was drilled out to 7,335 feet, and casing perforated at 8,305-35 feet. The majority of the wells on the dome are producing from Miocene sand at various horizons from 2,200 to 4,400 feet, and a few wells have been completed in the Jackson sands at intervals from 5,700 to 7,000 feet. The producing sand in the extension well is believed to be the upper Saline Bayou which was found productive in one well on the southwest flank.

Commercial production from the Miocene sand at Clam Lake, Jefferson County, was opened by Shell Petroleum Co. No. 1 McFaddin Trust and State, which flowed at the rate of 173 bbls. of 22-gravity oil through a quarter-inch choke with tubing pressure 125 pounds and casing pressure 500 pounds. Production was obtained by perforating casing at 2,387-97 feet. The Miocene sand has been tested in a few wells, but no successful completion was ever made, due to mechanical trouble caused by sand conditions. The discovery well was completed in the Oligocene sand at approximately 5,900 feet.

The West Ranch field, Jackson County, was being extended 1,300 feet west as Magnolia Petroleum Co. prepared to complete No. 7-A West. Gas sand was topped at 5,072 feet, and oil sand, topped at 5,087 feet, was cored to a total depth of 5,113 feet, and 7-inch casing was cemented at 5,105 feet.

Humble Oil & Refining Co. established the water level for the Lovell's Lake field, Jefferson County, as No. 1 Failor, in the newly-opened north extension area, tested 270 feet of salt water and 7,050 feet of oil on a drill-stem test through perforated casing at 7,733-35 feet. The perforations were squeezed off with cement and the company is swabbing the hole in an attempt to complete through perforated casing at 7,722-27 feet. In the same area, Humble made location for No. 1 Broussard Trust, while George Echols is moving in a rig for No. 1 Beaumont Launch Club in the C. Hillebrandt Survey. This test offsets Shell Petroleum Corp. No. 1 Pleasant, a distillate producer 1½ miles south of the above development.

Old Ocean Partly Defined

The northern limits of the Old Ocean field, Brazoria County, were believed to have been defined by Old Ocean Development Co. No. 1 Patterson, 1 mile north of production in the Polly and Chance Survey. Two drill-stem tests through perforated casing at 10,250-85 feet and at 10,160-80 feet showed nothing but salt water and the hole has been plugged back to 10,052 feet and a series of squeeze jobs made at 9,933-10,047 feet. On the northeast side of the field in the Charles Breen Survey, Sun Oil Co. No. 1 Campbell flowed 144 bbls. of 38-gravity oil in seven hours through a 14/64-inch choke under a tubing pressure of 1,500 pounds. The well was completed through perforated casing at 10,052-86 feet. This is the first oil well completed in the field by other than Harrison & Abercrombie who control practically all the acreage. The interesting feature of the Sun well is that the gravity of the oil is much lower than that produced by the other wells which latter range around 56 degrees.

In the League City field, Galveston County, Phillips Petroleum Co. No. 1 Dr. Patton, most northeasterly well, is bottomed at 10,535 feet, and an electrical survey was being made. It is doubtful if the well will be carried much deeper, and the hole is expected to be plugged back and tested in the 9,000-foot sand where an electrical survey showed favorable indications. Offsetting the discovery well to the northwest the Phillips No. 1 Stewart Title Guaranty Co. topped oil sand at 9,072 feet, and is coring ahead in sand at 9,082 feet. North of the discovery well, same company's No. 1 Ott is drilling in shale below 9,178 feet after logging oil sand at 9,070-9,110 feet which is the discovery sand. The hole is being carried deeper in the hope of finding the deep sand recently opened by the Midstates Oil Co. below 9,200 feet.

Humble Oil & Refining Co. marked up another failure in the Clear Lake field, Harris County, with the abandonment of No. 4-C West fee at a depth of 6,042 feet. Southeast of production, the field was being extended about 1,800 feet as No. 3 Humble-West fee cored sand showing oil at 5,902-20 feet and was coring ahead.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

Brazoria County

Hastings field: Stanolind Oil & Gas Co. No. 30 Curkett, perforated casing 6,062-78 feet, 537 bbls., quarter-inch choke. Lockridge field: Shell Petroleum Corp. No. 1-A Ramsey, sand 6,344-65 feet, 79 bbls., eighth-inch choke.

Chambers County

Cedar Point field: Standard Oil Co. of Texas and other No. 35-118 State, perforated casing 5,955-85 feet, 25 bbls., quarter-inch choke.

Fort Bend County

Thompson field: Gulf Oil Corp. No. 30-A F. I. Booth, 3,599 feet, abandoned. Humble Oil & Refining Co. No. 19-X Lockwood, 3,754 feet, abandoned.

Harris County

Bammel field: Hamill & Smith No. 1 Majorwitz, 7,006 feet, abandoned. Eureka field: Means & McGehee

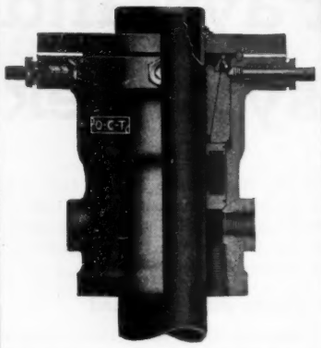
(Continued on Page 74)

O-C-T

TYPE C-9-PS

SLIP SUSPENSION

CASING HEAD



Permits landing casing at any desired point. Permits drilling and running casing through blowout preventer equipment flanged above. Packing, slips, and slip bowl passes through blowout preventer to seat in body of head. Packing compressed by weight of casing. Hold-down screws aid in compressing packing. Available with or without welding flange, which holds casing down and effects auxiliary seal above slips. Test pressures up to 10,000 lbs.

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Among the Drilling

FALCON-SEABOARD DRILLING Co., Tulsa, has just completed No. 15 McFadden and is rigging up No. 16 McFadden for Barnsdall Oil Co. in the McFadden pool of Victoria County, Texas. It is also completing No. 3 Isensee in the Saxet pool of Nueces County, Texas, and No. 2 Goodykoontz in the Fairbanks pool in Harris County, Texas, for Sinclair-Prairie Oil Co. It has also recently completed No. 3 Traylor Ranch in the Heyser pool, Calhoun County, Texas, for Barnsdall Oil Co.

HARRY L. EDWARDS DRILLING Co. has moved to the Fairbanks area, Harris County, Texas, where an interesting test will be drilled for Kirby Petroleum Co. The well is on the Daniels tract in the S. S. McReynolds Survey, about a mile northeast of Union Producing Co. No. 1 Goodykoontz, a large gas well.

AL BUCHANAN is rigging up a wildcat about 2½ miles southeast of the Longhorn field in Duval County, Texas, for No. 1 Atlee Parr in the San Andres grant. It will be drilled to the Pettus sand.

GEORGE ECHOLS has moved a rig to the Lovells Lake field, Jefferson County, Texas, where No. 1 Beaumont Launch Club will be drilled for himself. In Fort Bend County, Grisso Royalty Co. wildcat has been spudded, while at the League City field, Galveston County, two rotaries are operating for himself.

LOFFLAND BROTHERS moved a rotary to the active McCampbell field in Aransas and San Patricio counties, Texas, where contract was received from Walter Brauer for No. 2 fee.

JACK FRAZIER will move one of his rotaries to San Jacinto County, Texas, for No. 1 Annie J. Smith, a wildcat about 2 miles north of Shepherd in the J. D. Martinez Survey No. 10. The well will be drilled to 7,500 feet. Two other operations are reported in the Eureka field, Harris County.

TAUBERT & McKEE DRILLING Co., Fort Worth, Tex., is attempting production at Red Bank Oil Corp. No. 2 W. O. Parriott, in the northwest corner of Block 961, T.E.&L. Survey, in Throckmorton County, West Central Texas. Pipe has been set at 3,960 feet to test several feet of saturation below this depth. The operators previously had set 7-inch pipe at 2,236 feet for a test of saturation, but commercial production was not obtained. The test is a mile north of some production drilled several years ago by the company.

ROWAN DRILLING CO., Fort Worth, Tex., has been awarded contract for a 5,500-foot test in Tom Green County, West Texas. Henry Ley, former independent operator of Fort Worth and at present living in San Antonio, is part owner of the test with Rowan company holding an interest. The test is southeast of San Angelo and on a 10,000-acre block assembled by Southern Cross Oil Co. (Henry Ley). It is in the Upton lands of Section 20-A, John Gibson Survey. Materials are being moved in and the spudding is scheduled in the next few days.

CRON & GRACEY are drilling below 6,300 feet in Providence Oil Co. No. 1 Muske, a wildcat west of the town of Brookshire in the James Perry Survey, Waller County, Texas. In the Lake Long field, La Fourche Parish, coastal Louisiana, a production test is being made at Fohs Oil Co. No. 7 Lake Long which is attempting to open production from a new sand below 9,800 feet.

GEORGE J. GREER, drilling contractor of Dallas, Tex., has been awarded contract for a wildcat test in northern Pecos County, West Texas, by Ben Dansby, Jr., of Midland. Test is contracted to 2,500 feet, but it is believed by some it will be carried possibly to the Ordovician level, which is productive to the northwest in western Crane County. The test is Dansby No. 1 Lessenich, Lot 10, Section 45, Block 9, H.&G.N. Survey, approximately 11 miles east and slightly south of Magnolia Petroleum Co. No. 1-A Tex-Mex-McKee, deep Ordovician failure of several months ago.

COMET DRILLING CO. at No. 1 Tarby, in NW NE of Section 17-1n-2e, was shut down late last week while operators waited for a shipment of casing. The well is in the Davis-Wynnewood sector of Murray County, Oklahoma. Total depth is 2,505 feet, and casing will be set on top of the lime.

M-B-K DRILLING CO. is drilling No. 1 Gist in Section 9, Block 42, of T.&P. Survey, in Ector County, Texas, at 4,277 feet, corrected total depth. The well was shot with 430 quarts from 4,170 to 4,277 feet. When the crew was cleaning out the hole bridged. It flowed 145 bbls. in one

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Contractors

hour and five minutes through the bridge.

MAX PRAY DRILLING CO. has been drilling No. 1 John Langenfeld, in NW SW NW of Section 4-2n-1e, a deep test a mile north of Sandoval, in the Centralia, Illinois, area. Sulfur water killed prospects of production from 23 feet of Niagaran lime. The hole may be deepened to 4,500 feet to test the St. Peter formation. It is bottomed at 3,075 feet.

PARKER DRILLING CO., Fort Worth, Tex., has staked two pool-edge locations in Ector and Crane counties of West Texas and is spudding another test in Howard County. The new Ector County test is the company's No. 1 McDonald, on an 80-acre farm-out from Texas Co. and in the NE quarter Section 27, Block 16, P.S.L. Survey, on the southwest edge of the Jordan pool. On the west side of the McCamey pool, on the Crane-Upton County line, the operators staked a location in the King ranch lands, NE quarter Section 22, Block 35, on a 120-acre farm-out from Texas Co. The new Howard County test is in the Chalk lands, NW quarter Section 94, Block 29, W.&N.W. Survey, in the Chalk-Settles area.

GRACE & WOODS, contractors of Wichita Falls, Tex., are moving in rotary materials for a test on the high school campus of the town of Avoca in Jones County, West Central Texas. The test will be for W. H. Peckham, a Wichita Falls operator, and is an east outpost to the recently opened and rapidly developing Griffin pool just outside of the town of Avoca.

JOHN G. NEWLAND, drilling contractor of Gladewater, Tex., is moving in material for the first of three contemplated tests by Earl E. Fisher and others in the eastern part of Marion County, East Texas. The drill site is on the Susie A. Chatten lands about 10 miles east of Jefferson and is in Lot 5, I. N. Jones Survey. The operator and his associates have a block of about 6,000 acres in fee around the test.

J. O. HYDE, West Central Texas drilling contractor, is preparing to start a new outpost to the Merrick Davis-Hope pool of Shackelford County. Test will be drilled for Rhodes & Highers as their No. 1 Davis, Section 13, Block 12, T.&P. Survey, and is about a quarter of a mile north of the pool proper where the operators have 12 producing wells. It is 300 feet north of the old Gilman-McMurray and Atlantic well which produced some gas and oil from 1,495 feet when drilled in 1928.

BASS & DILLARD, contractors of Wichita Falls, Tex., have received contracts from Gulf Oil Corp. for three new tests in the Goldsmith pool of Ector County, West Texas. Gulf Nos. 155 and 156 Goldsmith are in Section 27, Block 44, T.&P. Survey, and its No. 157 Goldsmith in Section 3, Block 44, T.&P. Survey.

H. & M. DRILLING CO. No. 1 Lagree, in C NW NW of Section 31-19-1w, McPherson County, Kansas, was moving in materials and digging pits.

CASEY DRILLING CO. No. 1 Pace, in SW SW NE of Section 14-2-7, Oklahoma, after drilling to a total depth of 1,587 feet was shut down.

NOBLE DRILLING CO., Tulsa, in putting down a test for Pure Oil Co. at No. 1 Noble, in NE SE of Section 35-3s-1e, Carter County, Oklahoma, topped Hunton at 4,638 feet. Drilling is proceeding below 4,644 feet. This wildcat is scheduled to be drilled to 9,000 feet.

HELMERICH & PAYNE No. 2 Kensworthy, in Section 14-14-6e, Lincoln County, Oklahoma, had the Prue sand at 2,905 to 2,970 feet and was drilled to total depth of 3,006 feet. It was shot with 20 quarts and cleaned out over the derrick.

E. W. HUGHES DRILLING CO. No. 1 Misener, in NE NW of Section 10-20n-4w, Garfield County, Oklahoma, topped the Viola lime at 5,705 feet, a few feet higher than old producers in this area. At a total depth of 5,755 feet, the operators were preparing to run casing and rig up standard tools. Hopes for a slight extension of the old Brown pool, in Garfield County, were raised considerably this past week-end as a result of what has been found in drilling this well, which is headed for the Wilcox sand.

COOPER DRILLING CO. No. 1 School Land, in Section 16-4n-6e, Lincoln County, Oklahoma, flowed 412 bbls. of oil in 24 hours through casing. Two-inch tubing was set at 2,954 feet and the well flowed 225 bbls. of oil in 24 hours through tubing. Gas gauge showed 1,500,000 cu. ft. Its No. 2 School Land, NE SE NE of same section, was bailing at 2,964 feet and its No. 5 was drilling at 1,278 feet.

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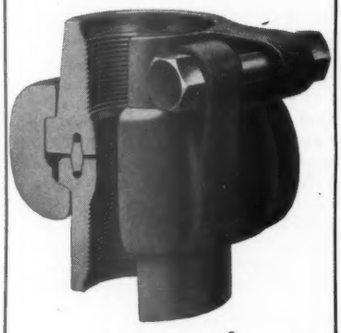

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West, Central and Panhandle Texas

By
D. H. STORMONT

Three Pools in Central Area Extended; New Wildcat Play

FORT WORTH, Tex., Jan. 30.—Extensions to three North and Central basin pools and the staking of several new wildcats throughout the South basin area featured the week's activity in the West Texas district. Rapidly increasing development in Jones County's new Griffin pool, and the opening of a pool on the Taylor-Callahan County line featured the activity in West Central Texas.

The Foster pool in Ector County received a three-fourths mile northeast extension to production, and the North Cowden area, in the same county, was given a new outpost test three-fourths of a mile north of production. As the week closed, pipe line was being laid to the M.B.K. Drilling Co. and others No. 1 Gist, three-quarter-mile northeast extension to the extreme eastern edge of the Foster pool. The well is bottomed at 4,269 feet, with pay logged from 4,170 feet to the total depth. At 4,259 feet the well swabbed and flowed 195 bbls. of oil in 11 hours, producing 18 bbls. of oil the first four hours. Location of the new producer is in Section 7, Block 42, T.&P. Survey, on acreage farmed out from York & Harper, Inc., of Midland, and Sloan & Zook Co. of Bradford, Pa. Three-fourths of a mile north of the North Cowden pool, Ector County, Sinclair Prairie Oil Co. will seek an extension to production with its No. 1 Fay Holt, in the southeastern part of Section 1, Block A, P.S.L. Survey. The new test is three-fourths of a mile west of the most northern producer, and 1 mile due north of the west edge of the pool.

Extending the Keystone pool, Winkler County, 1 mile to the north last week, Sid Richardson No. 1 Sun-Jenkins has been officially gauged at 174 bbls. of oil daily. The well was plugged back from 3,597 feet to 3,495 feet and given a 300-quart shot from 3,360 feet to 3,495 feet. It is in Section 4, Block 77, P.S.L. Survey. Richardson has staked a test in the mile north extension area. It will be No. 2 Bashara, southwest corner of Section 22, Block 77, P.S.L. Survey.

North Basin

With indications for the largest oil well yet completed in the area, the Seminole pool in Gaines County is fast becoming one of the major North basin fields of West Texas. Amerada Petroleum Corp. No. 2 Riley, Section 229, Block G. W. T. Survey, northwest edge test for the field, gauged 1,554 bbls. of oil in 7½ hours from 5,152 feet to 5,224 feet. The well has been shut in, awaiting the erection of storage. The best saturation was logged some 60 feet below what was previously thought to be the water level in the field. The results of this well are expected to greatly increase the potentials of future wells drilled in the field.

One and one-half miles northwest of the discovery well of the Dean pool in Cochran County, T. G. Shaw No. 1 Carrie S. Dean is attracting considerable attention as it continues coring below 4,952 feet. Several sections of hard lime showing oil stains but little porosity have been recovered. The test is located in League 94, Mills County School lands.

Two New Tests in Yoakum

Yoakum County received two wildcat tests during the past week, the most interesting of which is the Texas Pacific Coal & Oil Co. No. 1 Brownfield, in the northeast part of Section 802, Block D, Gibson Survey. The well is about 3¼ miles southwest of the J. E. Mabee No. 2 Willard, mile southwest extension to the Bennett pool. For several months oil men have been attempting to arrive at a conclusion as to whether or not the Wasson and the Bennett pool structures are one. This test, located about midway between the two pools, should do much to settle the question.

Another test was staked by the Texas Pacific company in the area linking the Denver pool and the Wasson pool of northwestern Gaines County. It is No. 1 Cecil Bloomer, in Section 891.

Wildcat tests were staked in four southern basin counties including Crane, Ector, Tom Green and Pecos. The deep Ordovician producing area of western Crane County received a new test when Sinclair Prairie Oil Co. located No. 3 Tubbs, Section 3, Block 27-B, P.S.L. Survey. It will be the second Ordovician test drilled by the company on its acreage, and it is on the northeast edge of the pool, just east of the Gulf Oil Co. No. 9 Waddell, recently completed for an initial of 2,674 bbls. of oil daily.

In Ector County, R. R. Rhodes staked No. 1 J. L. Johnson in Section 43, Block 42, T.&P. Survey. Tom Green County was given a deep 5,500-foot wildcat when Henry Ley and the Rowan Drilling Co. announced location on the Upton lands in Section 20-A, Gibson Survey. In Pecos County, Ben Dansby announced location for No. 1 Lessenich, Section 45, Block 9, H.&G.N. Survey. The test is contracted to be drilled to 2,500 feet, but may be carried to the Ordovician level in the event commercial production is not found before. It is about 11 miles east and slightly south of the Magnolia Petroleum Co. No. 1-A Tex-Mex-McKee, deep failure of last year.

WEST CENTRAL TEXAS

The continued rapid development in the new Griffin pool in Jones County, and the discovery of a pool in Taylor County near the Taylor-Callahan County line featured the development in the West Central district.

On the northwest edge of the Griffin pool, Iron Mountain Oil Co. completed No. 2 Taylor. It is the largest well in the field, flowing 3,744 bbls. daily without acid treatment. The same operators are skidding the rig south for No. 3 Taylor, on the same tract. Attempting to extend the northern portion of the pool, Consolidated Oil Co. is starting its No. 1 C. J. McCaskey as a north offset to the Iron Mountain Co. No. 2 Taylor. On the west side of the field and in the town of Avoca, W. H. Peckman has moved in rotary onto the campus of the Avoca High School. East offset to the Iron Mountain Oil Co. and Humble Oil & Refining Co. No. 1 Taylor, Bert Fields has completed his No. 1 J. T. Taylor for 3,024 bbls. of oil daily, natural flow. Fred Browning No. 1 Avoca Townsite, which was in the testing stages for several weeks, has been abandoned, giving the field its first dry hole. This field is producing from the Palo Pinto lime of Pennsylvanian age, as is the Avoca pool in the northeastern part of the county, about 6 miles northeast of the townsite.

Also in Jones County and opening the second deep horizon in the Noodle Creek pool, Humble Oil & Refining Co. completed No. 1 C. A. Bickley, an old well drilled deeper, for an initial of 625 bbls. of oil daily from 3,113-32 feet. The test is producing from the Swastika sand. It is in Section 50, Block 18, T.&P. Survey. The Texas Co. is moving in materials for a north offset to the new well.

Two other Jones County tests were attracting considerable attention. Attempting to extend production in Jones County's Lewis pool, Buffalo Oil Co. made a location for a mile-south outpost. The test will be No. 1 Helen Woods, northeast corner of Section 53-15, T.&P. Survey. One mile southeast of the south end of the Sayles pool, testing has begun on J. H. Sproules No. 1 Lon Nichols, wildcat, in Section 47-16, T.&P. Survey. The test encountered saturated sand at 1,778-82 feet, total depth and the hole filled 300 feet with oil in 12 hours, after having drilled into the zone.

Southwest of the Hamby pool, on the Taylor-Callahan County line, Cooper & Robertson and Roberts No. 2 Bowles Estate opened the second county-line shallow pool when it pumped 122 bbls. of oil on a 24-hour test. Sand was topped at 1,748 feet with the main saturation encountered from 1,753-56 feet, total depth. Location is in Section 28, B.A.L. Survey, about 5 miles east of Abilene.

Runnels County received a new location when H. B. Hill staked his No. 1 F. Pruesser in the J. R. Nunn Survey No. 338.

WEST TEXAS FIELD COMPLETIONS
(24-hour production)

Andrews County

Gulf Oil Corp. No. 2 W. T. Ford, 4,380-4,465 feet, 866 bbls.

Crane County

Humble Oil & Refining Co. No. 23 Tubbs, 4,290-4,420 feet, 5,067 bbls.

Ector County

Blackstock Oil Co. No. 2-B T.&P. Lands, 4,020-4,160 feet, 2,188 bbls. Broderick & Calvert No. 2-A Johnson, 4,180-4,280 feet, 721 bbls. M. J. Delaney No. 4 R. W. Smith, 4,250-4,356 feet, 719 bbls. Hilton Oils No. 3 J. E. Smith, 3,980-4,170 feet, 1,626 bbls. Landreth Production Co. No. 4-O Scharbauer, 4,159-95 feet, 673 bbls.; No. 2-P Scharbauer, 4,158-4,202 feet, 639 bbls.; No. 4-A T.&P. Lands, 4,162-4,200 feet, 244 bbls. J. E. Mabee No. 5 Paul Moss, 4,030-90 feet, 1,260 bbls. Rushwold Oil Co. No. 1 Woods, 4,165-4,350 feet, 1,877 bbls. W. K. Royalty Co. No. 2 Smith, 4,173-4,276 feet, 745 bbls.

Gaines County

Magnolia Petroleum Co. and Atlantic Refining Co. No. 1 H. & J., 5,043-5,104 feet, 837 bbls. Osage Drilling and Atlantic Refining Co. No. 1 J. L. Tippett, 5,050-5,139 feet, 594 bbls. Phillips Petroleum Co. No. 1 Loffland, 4,837-5,000 feet, 1,029 bbls.

Pecos County

George T. Abell No. 1 Baldwin-State, dry and abandoned at 2,500 feet. J. R. Bell No. 1-C Gulf-Shearer, dry and abandoned at 1,567 feet. M. H. Black and others No. 2-B Pecos Valley, 1,543-70 feet, 230 bbls. Childress Royalty Co. No. 1 Humble-Shearer, dry and abandoned at 1,545 feet. Mid-Continent Oil Co. No. 1 Jasper City Royalty, 1,524-1,650 feet, 177 bbls. Peerless Oil & Gas No. 6-A Pecos Valley, 1,511-81 feet, 349 bbls. W. H. Street No. 2 Standard-Fromme, 1,440-78 feet, 157 bbls.

Schleicher County

Cooper Gas Co. No. 2 Page, 5,441-5,525 feet, 9,500,000 cu. ft. of gas.

Upton County

Basin Oil No. 6-D Baker, dry and abandoned at 2,342 feet. Gulf Oil Corp. No. 185 McElroy, 2,700-2,991 feet, 353 bbls. Hancock & Knox No. 4 Republic-Baker, 2,226-73 feet, 963 bbls.

Ward County

Luse & Ice No. 3 A. Blair, 2,010-85 feet, 240 bbls.

Winkler County

Buffalo Oil Co. No. 2 Cities Service-Daugherty, dry and abandoned at 3,150 feet. Bert Fields No. 3-D Pure-Cowden, 2,852-3,009 feet, 308 bbls. Gulf Oil Corp. No. 68 Daugherty, 2,854-2,970 feet, 320 bbls. Magnolia Petroleum Co. No. 209 Walton, 3,170-3,270 feet, 249

(Continued on Page 82)

North and East Texas

By D. H. STORMONT

Follow Recent Discoveries With Offsets and Outposts

WICHITA FALLS, Tex., Jan. 30.—General activity in North Texas counties, stimulated by several recent discoveries, featured the week's development in the Wichita Falls district. Archer County held the spotlight with several tests being closely watched by operators.

Louis Sikes No. 1 W. Ford, in T. Cecil Survey, just north of the Hull-Silk area and a new pool opener, was being pumped for its official gauge as the week closed. The well was shut in two weeks ago for official testing and when opened, it did not flow. Production is from 4,375-4,422 feet through 158 perforations in 5¾-inch casing.

Birdwell Oil Co. No. 31-B Oil Investment Co., southeast corner of Block 125, John Richards Survey, a wildcat about 4 miles northwest of Archer City in Archer County, was cored at 2,310-29 feet, and while fine sand was recovered it showed no oil. Operators were preparing to core deeper as the week closed.

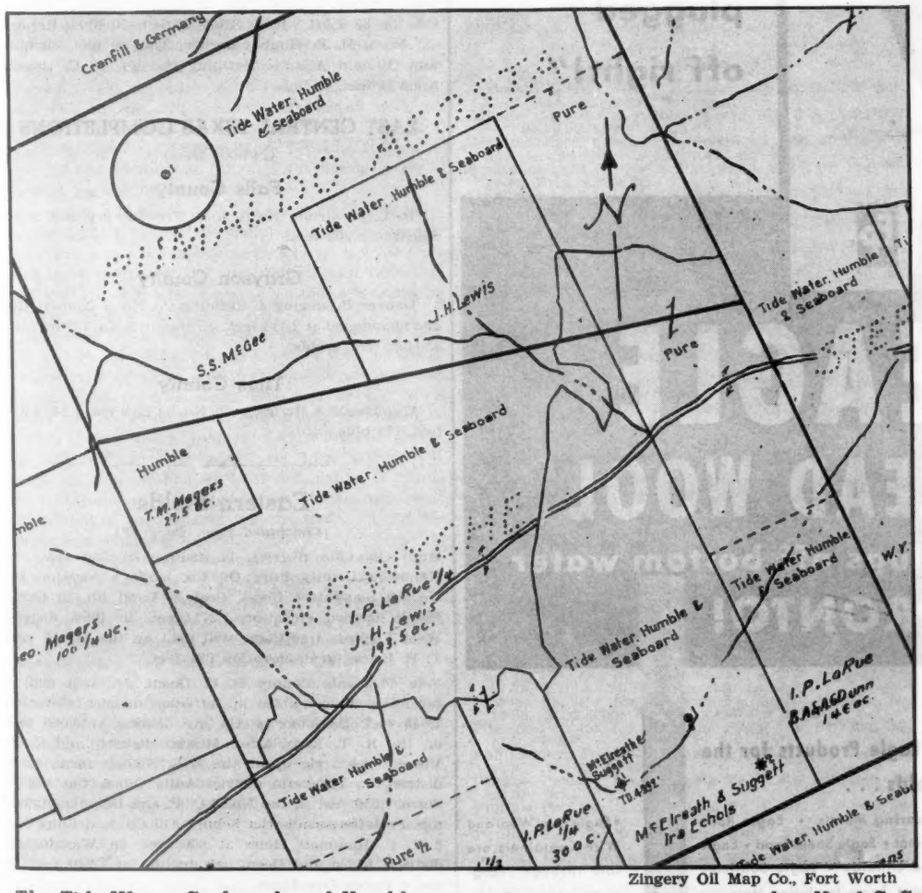
About 2½ miles southwest of the Hull-Silk pool, Phillips Petroleum Co. and others No. 1 Miller, an old well drilling deeper, has been cleaned out to 3,700 feet and drilling will be started in the next few days. Several other wells in Archer County are being cleaned out to drill deeper.

Offsetting the new oil strike in Montague County, Continental Oil Co. and Petroleum Producers Co. have made a location just south of the Benton & Holmes No. 1 Bowers Estate discovery well for No. 1 J. T. Langford, Jr., northeast corner of Block 47, M.E.P.&P. Survey. Operations on the new offset will start immediately. The discovery well has been connected to four 500-bbl. tanks and official testing will begin in the next few days.

Three miles south of Wichita Falls, in Wichita County, Continental Oil Co. and Petroleum Producing Co. are attempting to shut off the water in No. 1 Albert Finkler, south offset to the same companies' discovery well of last summer. Operators set a retainer at 5,000 feet and resumed swabbing through the tubing. Before setting the retainer, the well made several heads of oil and water. Production is through perforations from 5,089 feet to a plugged back depth of 5,141 feet. Location is in the Green Reynolds Survey.

Indicating a second producer for the new Voth pool of Cooke County, J. G. Beard No. 1 B. Voth, in the N. Matson Survey, 660 feet south of the discovery well in the Ellenburger lime (Lower Ordovician), drilled 12 feet of saturated sand at 1,783-95 feet. The pool is about 2 miles south of Muenster.

Clay County was given a new deep wildcat test when Wood Petroleum & Royalty Co. started moving in rotary rig to deepen its old test northwest of Dean. The well was temporarily abandoned at 2,400 feet several months ago but the operators now plan to carry it to the 5,000-foot level. It is located in Section 44, Bosque County School Lands.



Zingery Oil Map Co., Fort Worth

The Tide Water, Seaboard, and Humble companies are attempting to complete No. 1 S. S. McGee, third test on the Opelika structure in Henderson County, as an oil well despite high gas pressure and distillate volume

NORTH TEXAS COMPLETIONS

Clay County

Walter H. Gant No. 7 C. M. Worsham, 3,940-48 feet, 597 bbls. Bridwell Oil Co. No. 27 T. C. Thornberry, 1,102-17 feet, 19 bbls. W. H. Metzner No. 2 C. T. Taylor Estate, 410 feet, dry. Taylor & Seaberry No. 1 C. E. Groves, 789 feet, dry. C. V. Beasly and others No. 5 C. J. Shumake, 1,137-50 feet, 55 bbls.

Cooke County

Owen M. Murray No. 8 F. J. Truebenbach, 935 feet, dry. Sinclair Prairie No. 5 J. M. Best, abandoned location. Trumter Petroleum Corp. and others No. 1 B. Voth, 544 feet, junked.

Jack County

A. Cohan No. 5 State Bank Bryson, abandoned location. Danciger Oil & Refining Co. No. 5 S. M. Ivey, 3,089-3,109 feet, 808 bbls. Noah Daves No. 1 K. D. Baker, 2,370 feet, dry. B. C. Gilmore No. 1 Mrs. K. Hoefle, 491 feet, dry. Montgomery and others No. 1 F. M. Mathis, 455 feet, dry.

Montague County

L. T. Burns No. 1 M. Mitchell, 5,062 feet, dry.

Wichita County

E. G. Boardman No. 1 Joe Stephenson, 1,441 feet, dry. E. M. Crump No. 1 J. H. Oats, 247 feet, dry. Clark & Jennings No. 1 Perkins & Cullum, 2,635-43 feet, 10 bbls. Continental Oil Co. No. 3-B R. L. Kempner, 3,810-58 feet, 112 bbls.; No. 2-B Munger, 4,045 feet, dry. Dorian & Mitchell No. 1 Sue Mitchell B, 3,867-3,918 feet, 408 bbls. J. E. Farrell No. 29 J. L. Waggoner C, 3,811-3,975 feet, 600 bbls. Fisher & Dudley No. 2 F. P. Warren, 1,358-80 feet, 15 bbls. W. B. Hamilton No. 5 N. H. Martin A, abandoned location. Hanlon-Buchanan, Inc., No. 7 Fassett & Tuttle B, 3,926-4,005 feet, 1,320 bbls. King Oil Co. No. 4 S. W. Wigley A, 3,772-3,878 feet, 361 bbls.

E. B. Madden No. 2 T. L. Burnett, 626 feet, dry. Panhandle Refining Co. No. 13 Reilly-Griffin, 1,795-1,847 feet, key well; No. 6-A Reilly-Griffin, 3,748-3,822 feet, 304 bbls. Pols & Schulz No. 1 Ed Foster N, 2,104 feet, dry. H. L. Rugeley No. 14 W. T. Waggoner A, 1,818-33 feet, 35 bbls. H. H. Spencer No. 29 J. J. Welbener, 226-34 feet, 2 bbls. Staley Oil Co. No. 1 Gose & Scott, 3,795-3,898 feet, 424 bbls. Venmex Oil Co. Nos. 3-A, 4-A and 5-A State Lands, abandoned locations; No. 1-A H. S. Griffin, 3,760-3,834 feet, 2,400 bbls. Hanlon-Buchanan, Inc., No. 5-A Fassett & Tuttle, 3,920-99 feet, 960 bbls. F. L. Pilkenton No. 9 W. W. Overby, dry and abandoned 724 feet.

Young County

Cable Oil Co. No. 9 Jocy Williams, 550-66 feet, 10 bbls. Collier & Conner No. 1-A H. M. Ford, 3,008-3,120 feet, 35 bbls. S. F. Glover No. 22 C. W. Johnson, 578 feet, dry; No. 23 C. W. Johnson, 588 feet, dry. Jones & Shelburn No. 1 H. Brashear, abandoned location. C. C. Robertson No. 5 Hardey, 733 feet, dry. R. J. Watson No. 1 B. A. Larimore, 564-78 feet, 5 bbls. Union Producing Co. No. 1 M. G. Cheney, 4,415 feet, dry.

EASTERN TEXAS

DALLAS, Tex., Jan. 30.—With final gauges still incomplete, the two deep lower Marine Trinity prospective producers in the Cayuga and Opelika pools centered most of the attention in eastern Texas during the week.

As the week closed, operators watched the Opelika

area of northwestern Henderson County where completion attempts had started on the Tide Water-Seaboard-Humble No. 1 S. S. McGee, outpost, about 6,000 feet west of the Opelika pool discovery well. Casing is set at 8,212 feet and operators were washing the hole after perforating casing from 8,170-80 feet with 47 shots. The test is attempting to develop oil production instead of gas-distillate, as the second well drilled in the area is producing oil. The shots were placed low in an effort to undershoot the high-pressure gas zone which has several times delayed an accurate gauge. The possibility of completing the test as an oil well has held it in the spotlight for several weeks.

The deep Glen Rose test at Cayuga, Barnsdall Oil Co. No. 2 Tubbs, in the Anderson County portion of the field, was given an official gauge of 1,580,000 cu. ft. of gas per day. The test was completed after a two-stage acid treatment at 7,521-78 feet. The well constituted a mile extension for the deep Glen Rose zone over into Anderson County. The regular producing horizon in the Cayuga field is the Woodbine sand.

The Navarro Crossing pool of Houston County received location for Humble Oil & Refining Co.'s tenth well. The firm has five oil wells in the field, two gas wells, one failure and one test drilling. The new operation is No. 1 Tom Tryon, on a 100-acre tract in the northwest part of the Juan Riviere Survey. Humble's active well in the area, No. 2 Jim Burns, offsetting the discovery, was last reported fishing for bit at 4,615 feet. Humble is soon expected to move across the river to test acreage in Leon County.

New Locations

Locations were staked, one each in Falls, Houston and Kaufman counties. Two miles northeast of Lott in Falls County, Marshall Hayes started drilling No. 1 Murphy in the J. M. Sanches Survey. The test was waiting for cement to set at 1,190 feet as the week closed. In Houston County, Leggett & Gossett staked No. 1 B. F. Gardner in the J. Thorn Survey just north of Weldon. South Kaufman County was reported to have another Woodbine wildcat as W. S. McGee started No. 1 General American Life Insurance Co., about midway between Tolosa & Gossett. McGee has drilled one other test in the area, but water intrusion prevented completion of the well.

In Morris County, Vincent A. Hughes No. 1 Hall, wildcat in the Levi Jordan Survey, just east of Dangerfield, was plugged and abandoned at a total depth of 4,302 feet.

EAST TEXAS FIELD COMPLETIONS

(One-hour tests)

Gregg County—Longview Area

L. Carr No. 5 G. W. Richey, 3,551-58 feet, 75 bbls. General American Oil No. 2-B G. E. McGrede, 3,631-42 feet, 60 bbls. Kewanee Oil No. 32 Hampton fee, 3,558-99 feet, 84 bbls. Selby-Lewis No. 41-B Snavely Heirs, 3,570-91 feet, 5 bbls. Shell Petroleum Corp. No. 26 H. Hampton, 3,616-3,736 feet, 70 bbls.; No. 27 H. Hampton, 3,606-3,727 feet, 70 bbls. W. C. Turnbow No. 4 Turnbow-Persons, 3,470-3,502 feet, 125 bbls.

Rusk County—Kilgore Area

Humble Oil & Refining Co. No. 184 L. D. Crim, 3,575-76 feet, 80 bbls. Fox-Wood & Penn No. 6 L. Morse, 3,610-46 feet, 80 bbls.

Rusk County—Joiner Area

Cockburn-Booze No. 7-A A. Green, 3,800-31 feet, 55 bbls. Humble Oil & Refining Co. No. 27 J. E. Wheelis, 3,759-60 feet, 50 bbls. P. G. Lake No. 19 V. E. Reid, 3,591-3,617 feet, 21 bbls. Placid Oil Co. No. 9 R. J. Vinson, 3,653-98 feet, 80 bbls. P. G. Tripplett No. 8 W. P. Keeling, 3,730-35 feet, 45 bbls.

Smith County—Joiner Area

Magnolia Petroleum Co. No. 16 A. T. Syiska, 3,817-18 feet, 25 bbls.

Upshur County—Longview Area

Rancho Oil No. 21 J. K. Edwards, 3,611-21 feet, 80 bbls. General American Oil No. 12 W. Sexton, 3,009-20 feet, 18 bbls. Humble Oil & Refining Co. No. 21 D. Thomas, 3,535-91 feet, 45 bbls. T. D. Humphries No. 20 Angus Spear, 3,533-77 feet, 68 bbls. Overton Refining Co. No. 35 I.&G.N.R.R., 3,506-50 feet, 50 bbls. Refugio Oil No. 6 M. B. Hughey-Barber, 3,506-50 feet, 60 bbls. Sun Oil and Atlantic Refining Co. No. 16 C. Brown, 3,608-74 feet, 48 bbls.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour tests)

Falls County

R. L. Seastrunk No. 1 J. B. Trewitt, dry and abandoned at 1,202 feet.

Grayson County

Denver Producing & Refining Co. No. 3 Cannon, dry and abandoned at 2,414 feet. E. Marshall No. 1 Christian, 830-927 feet, 8 bbls.

Titus County

Humble Oil & Refining Co. No. 3 Clark fee, 4,245-4,331 feet, 173 bbls.

Eastern Fields

(Continued from Page 62)

Run, Glenville district, is drilling at 359 feet. In Kanawha County Pure Oil Co. made a location for No. 10 Slaughters Creek Coal & Land Co. in Cabin Creek district, elevation 1,271 feet. In Poca district West Virginia Gas Corp. will drill on the W. H. and T. E. Reese farm, elevation 681 feet.

In Pleasants County B. C. Deem, Jr., will drill a second well on his fee in Jefferson district, elevation 1,045 feet. Dinsmoor & Co. are drilling at 2,060 feet on the R. T. Eddy farm, McKim district, and C. F. Vincent has a rig up on the J. E. Nichols farm, same district. In Lafayette district Adlia Oil & Gas Co. is down 1,050 feet in the No. 3 C. P. and Delphia Simonton. In Jefferson district Schultz Oil Co. is drilling No. 3 T. C. Hammett Heirs at 800 feet. In Washington district, Ward and Deem are drilling at 1,270 feet in No. 4 Cassie Dye Heirs.

In Tyler County Ohio Oil & Gas Co. made a location on the Clyde Gorrell farm in Meade district, elevation 1,115 feet.

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Rocky Mountain Area

By
T. R. INGRAM

Fourth Well Is Completed in Lovington Area, Lea County

DENVER, Colo., Jan. 30.—A wildcat to be drilled in a new district in northeastern Colorado has begun spudding in the West Plains Development Co. No. 1 Sheldon, in Logan County. Isenberg-Parker-Myers No. 1 Myers-State, a test of the Pennsylvanian in Moffat County, was temporarily abandoned at 1,606 feet.

The Adams-Felmont well in Lance Creek, Wyoming, which extends the Leo sand pool, flowed 60 bbls. in two hours and then swabbed 15 bbls. per hour before acidizing. The Ohio Oil Co. is reported preparing to test the Bell sand in Lance Creek in an old well drilling deeper.

Cut Bank, Montana, had one completion and two new operations and Kevin-Sunburst had two completions and two new operations.

NEW MEXICO

Two oil producers, including the oil discovery well, and a gas well were completed in the new Lovington field, Lea County, N. M. Another test was near completion at Repollo Oil Co. No. 1 State, Lease 182, SW Section 31-16-37. It topped St. Andreas lime at 4,590 feet, datum of minus 770 feet, thus checking some 52 feet higher than Amerada Petroleum Corp. No. 1-LA State, second oil producer in the field, about 1 mile to the southwest. The Repollo well had porous, oil-stained lime at 4,604-43 feet. The hole was bottomed at 4,760 feet, where rotary returns were lost in soft pay lime, and 2½-inch tubing was set at 4,700 feet. Operators were swabbing. The completions in the Lovington area were:

Skelly Oil Co. No. 1-N State, C NW NE Section 36-16-36, the oil discovery, was completed for 110 bbls. of oil daily in pay topped at 4,675 feet, total depth 5,012 feet. The oil was 37.1 gravity, with gas-oil ratio of 447-1. Production was through tubing choke after acidizing with 2,000 and 5,000 gallons. Location is 2 miles north of the Westmount Oil Co.'s gas discovery well, the first completion in the field.

Amerada Petroleum Corp. No. 1-LA State, C SE SW Section 1-17-36, flowed 195 bbls. of oil daily through 30/64-inch choke on tubing. It found pay at 4,700 feet, total depth 4,813 feet, and was acidized with 1,000 and 2,000 gallons. It is a northwest offset to the Westmount discovery gasser.

Stanolind Oil & Gas Co. No. 1 State, C SW SE Section 1-17-36, east offset to the Amerada well, had only a slight stain of oil at 4,980 feet, total depth, and was plugged back to 4,153 feet. Two and one-half inch tubing was set at 3,891 feet, casing was perforated at 3,891-3,911 feet, and it produced 6,850,000 feet of sweet gas daily. Flowing pressure was 1,900 pounds. It topped St. Andreas lime at 4,605 feet, datum of minus 779 feet, some 43 feet higher than the Amerada well offsetting it on the west, but failed to find a comparable porous and oily lime section.

Other completions of the week in Lea County were:

Phillips Petroleum Co. No. 22 Santa Fe, C NW SW Section 26-17s-35e, Vacuum field, was completed at total depth of 4,528 feet, with top of pay at 4,173 feet, and flowed 257 bbls. of oil naturally in six and three-quarters hours. Gas was estimated at 750,000 cu. ft.

Cities Service Oil Co. No. 1-M State, C SW SW Section 36-21s-36e, Eunice area, found pay at 3,735 feet and gauged 265 bbls. in 14 hours, with 700,000 cu. ft. of gas daily. It was bottomed at 3,840 feet.

Continental Oil Co. No. 1-A Sanderson B-14, C N half NW NW Section 14-20s-36e, Monument field, flowed 27 bbls. of oil hourly, with 606,000 cu. ft. of gas from pay found at 3,775 feet. The well was completed naturally; total depth was 3,825 feet.

Maljamar Oil & Gas Co. No. 1-B Baish, C NE NW Section 22-17s-32e, Baish pool, reached total depth of 4,157 feet, was plugged back to 3,527 feet and completed as a gas well. Gas gauged 2,000,000 cu. ft. daily.

Italo Petroleum Corp. No. 1 Indian Petroleum Corp. B-6, NE NE NE Section 6-25s-37e, Jal district, flowed 17 bbls. of oil per hour. Total depth was 3,519 feet, top of pay 3,420 feet.

Two States Oil Co. No. 3-B Cole, C NE NW Section 16-22s-37e, Penrose area, total depth 3,700 feet, topped pay at 3,640 feet, and after acidizing with 2,000 gallons flowed 17 bbls. of oil hourly in an eight-hour test. Gas was estimated at 350,000 cu. ft.

J. M. Rush No. 3 State A-20, NW SW SE Section 20-20s-37e, Monument area, total depth 3,842 feet, topped pay at 3,800 feet and flowed 42 bbls. of oil daily through three-quarters inch choke on 2-inch tubing set at 3,830 feet. Gas gauged 750,000 cu. ft. per day.

Magnolia Petroleum Co. No. 22 State-Bridges, C SE SW Section 24-17s-34e, Vacuum field, flowed 48 bbls. of oil naturally in an eight-hour test through open tubing. Total depth was 4,700 feet, top of pay 4,514 feet.

Drilling & Exploration Co. No. 1-B State, S half SE NW Section 22-17s-35e, Vacuum area, was dry and abandoned at total depth of 4,690 feet in lime. The well was acidized and swabbed down but the hole filled with salt water, with only a slight trace of oil.

Two completions in Eddy County were: Rhodes Drilling Co. No. 1 Swearingan, NE SE NW Section 14-18s-31e. The well pumped and flowed 73 bbls. of oil in the last 24 hours of a three-day test. Total depth was 3,475 feet, with top of pay at 3,422 feet.

Fullerton Oil Co. No. 4-A Johnson, C SW NW Section 35-16s-31e, swabbed 64 bbls. of oil daily, pay found at 3,607 feet, total depth 3,950 feet.

Lea County

Barnsdall Oil Co. No. 1 Humble-State, C NE SE Sec. 33-16-36. S.D.O. 4,997 ft.
Repollo Oil Co. No. 1 State, Lease 182, C S½ SE SW Sec. 31-16-37. Drlg. 4,703 ft.
Continental Oil Co. No. 1-A Sanderson B-14, C N½ NW NW Sec. 14-20-36. W.O.C. 1,443 ft.
Continental Oil Co. No. 1 State H-34, C SE SE Sec. 34-17-34. Drlg. 4,639 ft.
Continental Oil Co. No. 4 State H-35, C SE NW Sec. 35-17-34. Drlg. 4,191 ft.
Continental Oil Co. No. 5 State H-35, C SW NE Sec. 35-17-34. C.&P.
Humble O. & R. Co. No. 2-J State, C NW SW Sec. 19-17-35. T.D. 4,765 ft.; to acd.
Humble O. & R. Co. No. 1-K State, C SE SE Sec. 28-17-35. Drlg. 3,007 ft.
Humble O. & R. Co. No. 2-K State, C NW NE Sec. 32-17-35. Drlg.
Magnolia Pet. Co. No. 4-M State, C SE NW Sec. 34-17-35. Drlg. 3,610 ft.
Magnolia Pet. Co. No. 2-J State, C NW SE Sec. 22-17-34. Drlg. 2,140 ft.
Magnolia Pet. Co. No. 23 State-Bridges, C NW SW Sec. 24-17-34. Drlg. 4,205 ft.
Magnolia Pet. Co. No. 24 State-Bridges, C SW SW Sec. 13-17-34. Drlg. 3,645 ft.
Magnolia Pet. Co. No. 25 State-Bridges, C NE SE Sec. 26-17-34. Drlg. 500 ft.
Maljamar O. & G. Co. No. 2-B Baish, C NE NE Sec. 27-17-32. T.D. 2,602 ft.; to acd.
Maljamar O. & G. Co. No. 1-B Mitchell, C NE SE Sec. 20-17-32. T.D. 3,591 ft.; W.O.S.T.
Maljamar O. & G. Co. No. 6 Mitchell, C SE NE Sec. 21-17-32. Drlg. 3,700 ft.; S.O.
Maljamar O. & G. Co. No. 1-B State, C SW SE Sec. 16-17-32. Rng. csg. 4,110 ft.; F. 15 B.O.P.D.
Ohio Oil Co. No. 4 State-McCallister, C NW SW Sec. 25-17-34. Drlg. 4,385 ft.
Ohio Oil Co. No. 2 State-Staplin, C NE SW Sec. 30-17-35. C.&P.
Phillips Pet. Co. No. 12 Santa Fe, C NE SW Sec. 28-17-35. T.D. 4,700 ft.; C.O. 4,690 ft.
Phillips Pet. Co. No. 15 Santa Fe, C NE NE Sec. 28-17-35. T.D. 4,700 ft.; C.O. 4,640 ft.
Phillips Pet. Co. No. 18 Santa Fe, C NW NE Sec. 34-17-35. T.D. 4,550 ft.; rng. tbg. to test.
Phillips Pet. Co. No. 19 Santa Fe, C NW NE Sec. 35-17-35. T.D. 4,780 ft.; P.B. 4,687 ft.; S.D.O.
Phillips Pet. Co. No. 20 Santa Fe, C SW SW Sec. 27-17-35. C.&P.
Phillips Pet. Co. No. 21 Santa Fe, C NE NE Sec. 33-17-35. W.O.C. 1,597 ft.
Phillips Pet. Co. No. 23 Santa Fe, C SW SW Sec. 26-17-35. Drlg.
Phillips Pet. Co. No. 24 Santa Fe, C NE NE Sec. 34-17-35. C.&P.
Phillips Pet. Co. No. 25 Santa Fe, C NW SE Sec. 30-17-35. Drlg. 1,110 ft.
Phillips Pet. Co. No. 26 Santa Fe, C NE SW Sec. 29-17-35. C.&P.
Repollo Oil Co. No. 2 State, Lse. 197, SE NE SE Sec. 6-17-34. Drlg. 3,407 ft.
Shell Pet. Corp. No. 1-C State, C NE SE Sec. 24-17-34. T.D. 4,733 ft.; tstg.
Shell Pet. Corp. No. 1-V State, C NE SE Sec. 21-17-35. Rng. tbg. 4,680 ft.
Shell Pet. Corp. No. 2-V State, C SE SE Sec. 27-17-35. T.D. 4,680 ft.; F. 156 B.O. in 5 hrs.
Standard Oil Co. of Texas No. 3 State, Lse. 3, C NE NW Sec. 32-17s-35. Loc.
Standard Oil Co. of Texas No. 4 State, Lse. 4, C NW SW Sec. 27-17-35. Drlg. 3,990 ft.
Texas Co. No. 1-T State, C SE NE Sec. 25-17-34. T.D. 4,725 ft.; S.I. 48 hrs.; opened and F. ½ B.O. and died.
Twin Oil Corp. No. 1-D State, C SW NE Sec. 30-17-35. T.D. 4,700 ft.; tstg.
Fullerton Oil Co. No. 1-A Walker, C SW NW Sec. 18-18-32. Jarring on tools at 830 ft.
Phillips Pet. Co. No. 16 Santa Fe, C NW SW Sec. 5-18-35. T.D. 4,750 ft.; C.O. 4,640 ft.
Great Western Prod. Co. No. 2 Bordages, NE SE NW Sec. 33-19-37. Drk.
Shell Pet. Corp. No. 2 Foster, SE SW SE Sec. 34-19-36. T.D. 3,702 ft.; rng. csg.
Continental Oil Co. No. 2 Britt B-10, C W½ NW SW Sec. 10-20-37. Drlg. 294 ft.
Continental Oil Co. No. 4 Britt B-15, NW SW SW Sec. 15-20-37. S.D.; wtr. 450 ft.
Continental Oil Co. No. 3 Sanderson B-14, C E½ SE SW Sec. 14-20-36. Drk.
J. M. Rush No. 4 State A-20, NW SE SE Sec. 20-20-37. Loc.
Texas Co. No. 16 Lieu-Lands, C NE SW Sec. 20-20-37. Drlg. 2,500 ft.
Aloco Oil Co. No. 1 Carson, C SW SE Sec. 28-21-37. T.D. 3,560 ft.; R.U.R.; to set whipstock.
Magnolia Pet. Co. No. 1 Marshall, C SW NW Sec. 34-21-37. Drlg. 3,132 ft.
Francis C. Wilson No. 3 State, NW SE NE Sec. 7-21-35. T.D. 3,839 ft.; O.I.H.; to shoot.
J. C. Clower No. 1-B Manda, NE NE NW Sec. 28-22-37. T.D. 3,681 ft.; pulled tbg. and F. 30 B.O.P.D.
Danglade & Clower No. 1-B Glier, C SE NW Sec. 33-22-37. Drlg. 3,030 ft.
Continental Oil Co. No. 4 Lockhart, B-1, C W½ SW NE Sec. 1-22-36. Drlg. 760 ft.
Continental Oil Co. No. 4 State J-2, C NE NE Sec. 2-22-36. T.D. 3,759 ft.; tstg.
Continental Oil Co. No. 5 State J-2, C SE SE Sec. 2-22-36. Loc.
Devonian Oil Co. No. 2 Christmas, SE SW SE Sec. 28-22-37. Abd. loc.
Olean Pet. Co. No. 2 Farrell, SW SE SE Sec. 22-22-37. Drlg. 3,490 ft.
Texas Co. No. 2-B Fally, C SE SW Sec. 8-22-37. Drlg. 1,530 ft.
Texas Pacific Coal & Oil No. 13-A State, C NE NE Sec. 11-22-36. Drlg. 3,170 ft.
Twin Oil Co. No. 1-C State, C SE NE Sec. 17-22-37. T.D. 3,699 ft.; F. 22 B.O.P.D.
Two States Oil Co. No. 4-B Cole, C SW NW Sec. 16-22-37. C.&P.
Walter Donnelly No. 1 Davis, C SE NW Sec. 33-23-37. T.D. 3,600 ft.; F. 25 B.O.P.D.
Great Western Prod. No. 2-B Leonard, C NW NW Sec. 32-23-37. C.&P.
R. Olson No. 1 Blinebry, C SW SW Sec. 29-23-37. W.O.C. 1,275 ft.
Montecito Oil Corp. No. 1 Woolworth, NE SE SW Sec. 33-24-37. T.D. 3,545 ft.; S.I.
North Shore Corp. No. 1 Woolworth, NE NE NW Sec. 33-24-37. Drlg. 3,105 ft.
North Shore Corp. No. 2 Woolworth, SE SE NW Sec. 33-24-37. Drlg. 3,237 ft.
Parker Drlg. Co. No. 3 Erwin, C W½ NE SW Sec. 35-24-37. T.D. 3,460 ft.; tstg.
Phillips and Pure No. 4 Woolworth, C NW SE Sec. 33-24-37. T.D. 3,491 ft.; F. 526 B.O. in 4 hrs. while drlg.; F. 274 B.O.P.H. on 35 min. test; tstg.
Phillips and Pure No. 5 Woolworth, C SW SE Sec. 33-24-37. Loc.
Schermerhorn Oil Co. No. 4 Woolworth, C NE SE Sec. 28-24-37. Drlg. 3,215 ft. (cor.).
Schermerhorn Oil Co. No. 5 Woolworth, NW SW NE Sec. 28-24-37. Drlg. 1,295 ft.
Sam Weiner No. 2 Woolworth, SW NW SW Sec. 33-24-37. T.D. 2,846 ft.; fsg.
Weir Drlg. Co. No. 3 Woolworth, NE SW SW Sec. 28-24-37. Drlg. 470 ft.
Culbertson & Irwin No. 2 Henry, SW SE SW Sec. 28-25-37. T.D. 3,295 ft.; F. by heads.
Geo. F. Getty No. 1-G State, NW NW NW Sec. 2-25-37. T.D. 3,582 ft.; P.B. 3,502 ft.; shot and F. 4 B.O.P.H.; est. 3,000,000 cu. ft. gas.
Gulf Oil Corp. No. 6 Stuart, C NW NW Sec. 11-25-37. Drlg. 2,250 ft.
Italo Pet. Corp. No. 1 Carlson B-27, NE NW NE Sec. 27-25-37. T.D. 3,364 ft.; P.B. 3,354 ft.; C.O. 3,336 ft.
Italo Pet. Corp. No. 1 Indian Pet. Corp. B-5, NW NE NE Sec. 5-25-37. Rng. csg. 1,255 ft.
Italo Pet. Corp. No. 2 Indian Pet. Corp. B-5, NE SE NE Sec. 5-25-37. R.U.R.
Richmond Drlg. Co. No. 1-A State, C NW SW Sec. 2-25-37. T.D. 3,338 ft., sd.; fsg. bit.
Richmond Drlg. Co. No. 2-A State, C SW SW Sec. 2-25-37. Drlg. 155 ft.
Sam Weiner No. 3 Smith, C N½ NE SE Sec. 4-25-37. Drlg. 3,155 ft.

Eddy County

Aston & Fair, Inc., No. 1 Hudson, C NE NE Sec. 18-17-31. Loc.
Dominion O. & G. Co. No. 3 Johnson, C NE SW Sec. 35-16-31. T.D. 3,950 ft.; fsg. bit.
Danciger O. & R. Co. No. 1-B Turner, CEL NE SE Sec 17-17-31. T.D. 3,530 ft.; tstg.
Hammond & Sons No. 1 Ployhar-State, SW SW SE Sec. 16-17-28. Drlg. 892 ft.

(Continued on Page 72)

...a Tribute t

to the Men of the Drilling Industry..

The Drilling Industry is a great Industry—because great men made it so.

Yesteryear—to drill a well was to sail an uncharted sea—with success depending on a courageous mind and a steady hand. 3,000 feet depths were thought to be the bottom limit.

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To those men of the past who accomplished much with little: to the men of today who are steadily pushing the oil frontiers outward and downward—Hughes Tool Company offers commendation.

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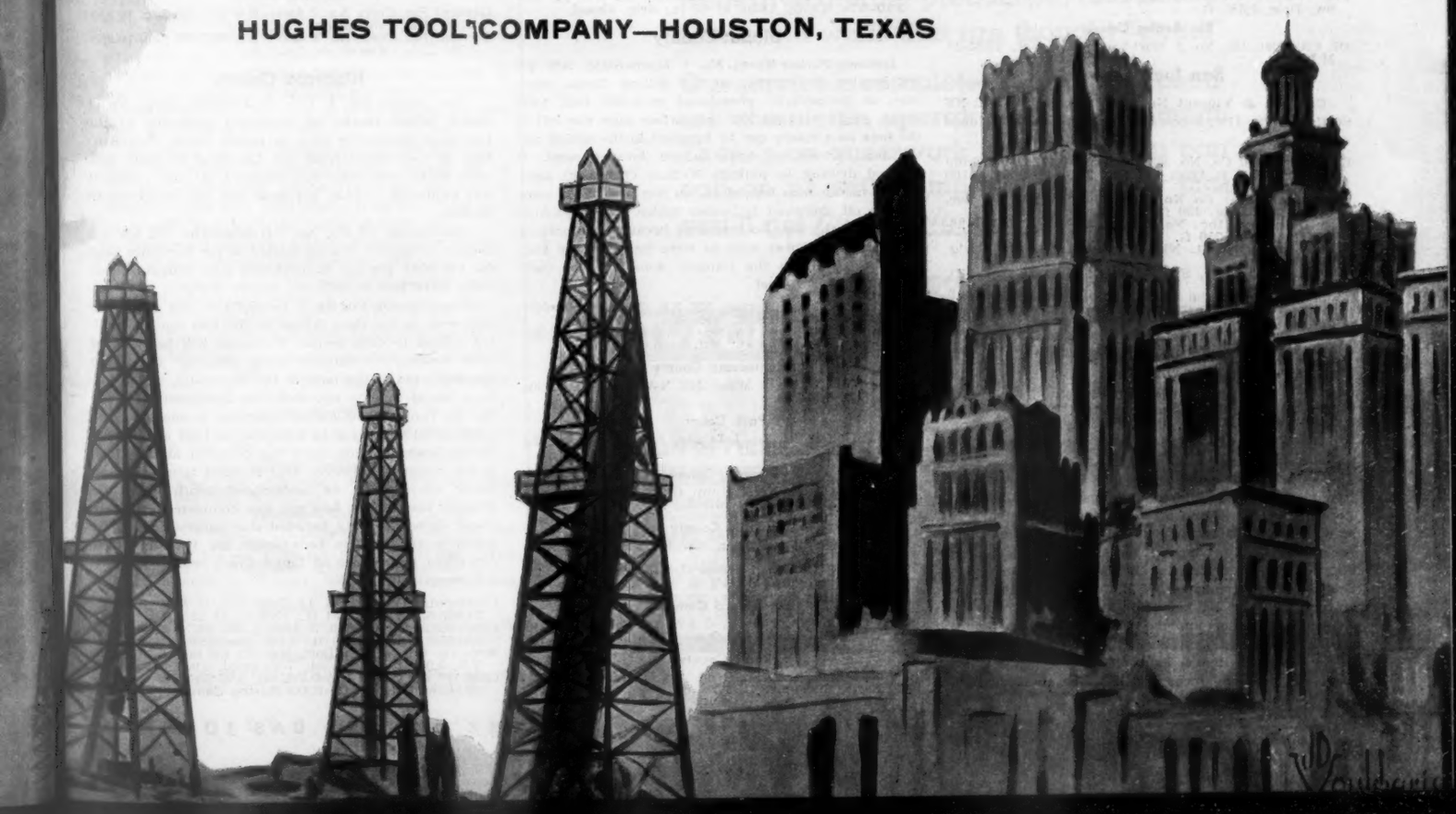

J. O. and J. H. Hammond No. 1 Paris, NE NW NW sec. 5-17-29. S.D.O. 25 ft.
English & Harmon No. 1 Stogner, C NW SE Sec. 31-17-31. T.D. 3,858 ft.; S.S.O.
P. B. English No. 1 Saunders, SE SE SE Sec. 13-17-27. T.D. 460 ft.; wtr. shut off; swbg.
Etz Bros. No. 5 State, SE NE SE Sec. 16-17-30. T.D. 3,300 ft.; swbg. 25 B.O.P.D.
Flint Prod. Co. No. 1-L Dexter, SE NW SE Sec. 15-17-30. Drlg. 2,980 ft.
Jim E. Hughes No. 2 Brooks, NE NW NE Sec. 19-17-28. M.I. mch.
F. G. Keyes No. 3 Red Gulch, NW NW NE Sec. 16-17-28. Rng. csg. 1,220 ft.
Ohio Oil Co. No. 4 State-McCallister, Sec. 25-17-34. W.O.C. 510 ft.
C. S. Powell No. 1 Smith, NW NW NE Sec. 6-17-29. Rng. csg. 1,635 ft.
Red Lake Oil Co. No. 1 State, NE NE SE Sec. 20-17-28. Drlg. 985 ft.
H. J. Steinberger No. 1 Hastie, SE NE SW Sec. 18-17-28. Drlg. 432 ft.
Adkinson Oil Co. No. 1 Brainard, SE SW SE Sec. 5-18-27. Drlg. 1,254 ft.
Farmer & Tallmadge No. 1 Hubbell, NE SW Sec. 4-18-25. S.D.O. 380 ft.
Franklin Pet. Corp. No. 1 Ballard, NE NE SE Sec. 1-18-29. W.O.C. 430 ft.
Green Bay Oil Co. No. 1-A Johnson, C SE SE Sec. 11-18-31. Drlg. 982 ft.
Paton Bros. No. 1 Erwin, C SE SE Sec. 5-18-31. Drlg. 3,637 ft.
Worth Drlg. Co. No. 1 Taylor, C SW SW Sec. 12-18-31. T.D. 3,600 ft.; F. 42 B.O.P.D.; tstg.
Yates et al No. 1 Yates, C NW SW Sec. 6-18-30. T.D. 2,874 ft.; shot and F. 420 B.O. in 18 hrs.
Harvey E. Yates No. 1 Travis, NE SE SE Sec. 6-18-29. Fsg. bit 925 ft.
Carper Drlg. Co. No. 1 Quillen, C NW NE Sec. 12-19-31 W.O.C. 917 ft.
Geo. E. Robb No. 1 Cannon, C SW SE Sec. 4-19-30 T.D. 210 ft.; S.D.O.
Geo. E. Robb No. 1 Vandagriff, SW NE Sec. 6-19-31. T.D. 800 ft.; S.D.O.
R. C. Underwood No. 1 Quillen-Bruce, NE NE SE Sec. 4-19-31. Drlg. 2,795 ft.
Martin Yates, Jr., No. 1 Bowers, SW SE SE Sec. 31-19-27. T.D. 1,180 ft.; est. 25-40 B.O.P.D.; tstg.
Trojan Oil Co. No. 1 Grant, SW SW NE Sec. 33-20s-25e. S.D.O. 408 ft.
C. F. Ingram No. 1 Page, NE NE SW Sec. 15-21-28. T.D. 2,978 ft.; fsg.
Barnett Oil Dev. Co. No. 1 King, C NW SE Sec. 23-26-30. Drlg. 1,588 ft.

Chaves County

Nay Hightower No. 1 Billingslea, C SW NE Sec. 28-11-30. Drlg. 1,945 ft.
E. J. Fisher No. 1 Foster, C NW NW Sec. 7-15-26. T.D. 1,281 ft.; S.D.O.

De Baca County

N. E. Woods No. 1 Jones, C NE SW Sec. 17-4n-20. T.D. 620 ft.; S.D. rprs.
James D. Ward No. 1 Summers, SE NE SW Sec. 15 4n-24e. T.D. 680 ft.; S.D.O.

Roosevelt County

Shell Pet. Corp. No. 1 Harwood, C S½ SE SE Sec. 27-7s-35e. T.D. 5,151 ft.; P.B. 4,600 ft.; S.D.O.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 Pajarito, Sec. 22-9n-1e. Drlg. 1,050 ft.
Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW Sec. 10-11n-4e. S.D. 4,550 ft.

McKinley County

S. Dysart No. 3-A Govt., NE NW NE Sec. 14-14n-10w. Cmtd. 12½-in. 1,320 ft.; 100 ft. sat.
Pet. Products Co. No. 3 Santa Fe, NE NW Sec. 1-17n-9w. Drlg. 1,585 ft.

Rio Arriba County

Oil City Pet. Co. No. 2 Wirt-Sanchez, C Sec. 12-31-2e. M.I.

San Juan County

Goodrun & Vincent No. 1 Seitzinger, SW SE NE Section 23-29n-11w, Bloomfield district, was abandoned at 945 feet.

Continental Oil Co. No. 86 Rattlesnake, 1,320 ft. from NL and 1,500 ft. from EL, Sec. 2-29n-19w. Drlg. 160 ft.; 8⅝-in. 23 ft.
San Juan O. & G. Co. No. 2 Cassidy, NW NW SW Sec. 18-29n-11w. Drlg. 400 ft.
Kutz Deep Test, Inc., No. 1 Govt., C NW NW Sec. 28-28n-10w. Drlg. 350 ft.
Jack Amenda No. 1, NE NE Sec. 14-29n-13w. Drlg. 625 ft.
Al Greer No. 2 fee, SW SE SW Sec. 10-30-11w. S.D. 830 ft. for csg.
Anna Oil Corp. No. 6 Govt., SW NE NE Sec. 33-30n-11w. S.D. 1,885 ft.; W.O. csg.; S.O. in Farmington sd. but will D.D. to Picture Cliff.
Ted Whetstine No. 1 McGee, NW NW Sec. 20-30n-11w. S.D. 434 ft. for mat.
Bullock & Noland No. 1 Bunce, SW SE Sec. 24-29n-1w. S.D. 965 ft.; (C.D.).

Valencia County

Joiner Oil Corp. No. 1 San Clemente, C NE SE Sec. 23-7n-1e. Drlg. 2,500 ft.; 10-in. 550 ft.

COLORADO

The Minnelusa Oil Corp., which has established its headquarters in the Midland Savings Bank Building in Denver, held a meeting of stockholders on January 20 at which R. S. Shannon, who resigned recently as superintendent of production for the Rocky Mountain division of the Continental Oil Co., was elected president and general manager. A. B. Cobb, a prominent operator in the Cut Bank field in Montana, and who developed production on the Novick lease in Lance Creek, was elected vice president; and Fred Goodstein, of the American Pipe & Supply Co., was elected treasurer. The company owns and operates approximately 500 acres in the Lance Creek, Wyoming, field, which are proven for production in the Leo sand, and around 1,200 acres of potentially productive land. The company has five Leo sand and one Sundance sand wells in Lance Creek on production and most of its oil is sold in Denver. It also owns an interest in the Rocky Mountain Pipe Line Co., which was built last fall from Lance Creek to Denver by the Continental Oil Co., and considerable storage including an 80,000-bbl. tank on the Novick lease. It is actively engaged in acquiring additional interests and gives promise of becoming an important unit in the development of Rocky Mountain fields. Vice President Cobb has production in Cut Bank, Montana, which may eventually be brought into the new setup. The company's acreage in Lance Creek is outside the unitized area.

Archuleta County

Boone Dev. Co. No. 1 Newton, SE NW SE Sec. 18-33n 1e. Drlg. sh. 735 ft.
Pagosa Oil & Dev. Co. No. 1 Macht, C Sec. 32-36-1w. T.D. 2,460 ft.; fsg. tools; through Dakota series.
Axelind Oil Co. No. 1, Sec. 11-32n-2e. Drlg. below 700 ft.

Boulder County

Reynolds & Roher No. 1 Thomas, SW SW Sec. 17-1n-70w. Drlg. 595 ft.

Fremont County

Stanley Thomas No. 1 Rickwalt, SE SE Sec. 2-19s-70w. S.D. 2,460 ft.

Garfield County

Roaring Fork Oil Co. No. 1 Patterson, C NE Sec. 36-7s-88w. S.D. 2,008 ft. for winter after W.S.O. with 5⅜-in. at 1,757 ft.

Huerfano County

J. W. Tomkins & Sons No. 2 Presser, SE SE SE Sec. 3-29s-69w. Drlg. 292 ft.

La Plata County

N. Spatter No. 1-X Bryce, SE SW SW Sec. 31-33n-9w T.D. 2,250 ft.; U.R. 8¼-in. at 2,230 ft.

Las Animas County

Hulme-Johnston-Allison No. 1 Azar, SE SE NW Sec. 27-34s-58w. T.D. 1,285 ft.; W.O. 10-in.; S.G. 1,279-83 ft.

Logan County

The West Plains Development Co. test to the Dakota series in the West Plains district has spudded in with cable tools. This wildcat is in an entirely new district in northeastern Colorado, approximately 35 miles to the northeast of the district in Morgan and Weld counties which received considerable attention several years ago following the bringing in of the Greasewood pool in the Lower Cretaceous, and approximately 60 miles northwest of the most northerly of the deep tests to sands in the Pennsylvanian and lower formations drilled in the past few years in eastern Colorado. The structure originally was mapped by the late C. T. Lupton. J. F. Norton, Falls City, Neb., has the contract which calls for a hole to the Dakota or 5,200 feet.

West Plains Dev. Co. No. 1 Sheldon, SE NW SE Sec. 3-10s-55w. Cmtd. 18-in. at 70 ft.; drlg. ahead.

Moffat County

Isenberg-Parker-Myers No. 1 Myers-State, NW SE NE Section 36-4n-103w, on the Willow Creek structure, is temporarily abandoned at 1,606 feet, total depth. Plugs were set and the surface pipe was left in the hole so a rotary can be installed in the spring and the test carried on down to the Amsden sand. It stopped drilling in pinkish Webber (Tensleep) sand. The formation was topped at 780 feet and had a show of free oil, followed by water which rose to within 300 feet of the top. No limestone breaks were encountered in the Webber such as were found in the California Co. well on the Rangely dome to the south. Elevation is 6,444 feet.

C. R. Privett No. 1 Sutton, NE NE SW Sec. 1-5n-96w. T.D. 1,145 ft.; fsg. U.R. lug.
Mackinnie Oil & Drlg. Co. No. 1 Coles, SW SW SE Sec. 1-3n-92w. S.D. 3,050 ft.; M.I. 6¼-in.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NW Sec. 31-36s-17w. S.D. 4,917 ft.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE Sec. 34-11s-75w. Drlg. 6,712 ft.

Prowers County

Continental Oil Co. No. 1 Ruby, C NE NW Sec. 31-21s-44w. T.D. 5,437 ft. in white L.; rng. 7-in.

Pueblo County

C. E. Puckett No. 1 Barber, NW Sec. 35-21s-66w. S.D. 870 ft. for csg.
Eden O. & G. Co. No. 1 Horse Creek, SW SE Sec. 29-19s-64w. Drlg. 2,045 ft.; 6¼-in. set at 2,043 ft.

Rio Blanco County

Buford Oil Co. No. 1 Govt., C SW SW Sec. 16-1n-91w. Drlg. gr. sh. below 3,618 ft.

Routt County

Steamboat Springs Drlg. Synd. No. 1 Brown, C NW NE Sec. 1-6n-86w. S.D. 1,790 ft.

WYOMING

Big Horn County

Frank S. Scott No. 1 Robertson, SE SE SE Sec. 6-54n-93w. Spd. to 14 ft. and S.D. to comp. R.U.
Libby-Keoughan Interests No. 1 Sheets-Govt., SE NE SE Sec. 9-55n-96w. Drlg. 2,720 ft.; 8¼-in. at 2,690 ft.
A. L. Rankin No. 1 Karjajla-Rankin, C SW NW Sec. 10-54n-94w. S.D. 590 ft.
Prescott & Mileski No. 1 Govt., NE NW SW Sec. 15-1n 93w. S.D. 1,190 ft.; repairs.
Clifford S. Johnson No. 1 Johnson, CEL NW NW Sec. 24-51n-93w. Spdg.
Joan Oil Co. No. 1 Howell, NE NW NE Sec. 32-55n-97w. S.D. 2,718 ft.

Campbell County

Fyre & Kreiner No. 2, CSL NW NW Sec. 6-50n-72w. Landed 5⅞-in. on bttm. at 823 ft. and S.D.

Carbon County

The Ohio Oil Co.-California Co. No. 7 Union Pacific-Johnson, an outpost well, appears to have defined the limits of the productive area of the first Sundance sand on the northern end of Big Medicine Bow. It had the base of that sand at 5,713 feet. It showed neither oil or gas and is drilling ahead to the second sand which had water in No. 6, to which it is an offset on the northwest. Last named was completed as a small gas well in the first Sundance at 5,330-50 feet.

Sinclair-Wyoming Oil Co. No. 2-A Mahoney Unit, C SW NE Sec. 34-26n-88w. M.I.M.
Ohio Oil Co.-California Co. No. 7 Union Pacific-Johnson, CEL NE SW Sec. 23-21n-79w. Drlg. below 5,713 ft.
Producers Oil Co. No. 1 Lake Valley, 200 ft. CEL Sec. 14-20n-88w. S.D. 1,916 ft.

Converse County

The Wyshawn Oil Co. No. 1 Lindley, a deep test in the West Shawnee area, about a mile to the south of the two shallow gas and one shallow oil wells of the Wyoming Southern Oil Co., is bottomed at 2,850 feet, exactly 100 feet in the Madison lime, and is fishing for tools. It had about 1,000 feet of the Minnelusa formation and 90 feet of Bell sand at the base.

Wyore Oil Co. No. 3 Gaspar, SW Sec. 25-32n-69w. Loc.
Chas. Wheeler et al No. 1 Fitzhugh, NW Sec. 19-31n-71w. S.D. 460 ft.
Jack Decker et al No. 1 Simonson, NW NE SE Sec. 16-32n-68w. S.D. 640 ft. for csg.
Wyshawn Oil Co. No. 2 Lindley, C SW SW Sec. 35-32n-69w. S.D. 2,392 ft.
Fred Bunker No. 1 Pestal, SE NE NE Sec. 32-32n-69w. T.D. 483 ft.; prep. to run csg.

Fremont County

Frank Pouppirt No. 1 Fidelity Tr., SW NE SW Sec. 27-3n-1w. S.D. 1,168 ft.
Tropic Oil Co. No. 1 Govt., C SE SW Sec. 34-27n-90w. S.D. 3,465 ft. in Lakota.
Consolidated Oil Properties No. 3 Ewart, C SW SE Sec. 16-1n-1w. S.D. 1,240 ft.
C. E. Nelson No. 8 fee, CWL NE SW Sec. 27-3n-1w. S.D. 1,200 ft.; S.O. 1,095 ft.
Frank Pouppirt No. 2, NW NW SW Sec. 27-3n-1w. S.D. 1,200 ft.

Lincoln County

H. C. Harris et al No. 1 Govt., SE NW NW Sec. 23-21n-117w. T.D. 1,096 ft.; fsg. tools.

Natrona County

General Pet. Corp. No. 2 State, NW SE NE Sec. 16-35n-77w. Drk.; foundations run.
General Pet. Corp. No. 1 State, NW NE SE Sec. 16-35n-77w. Drlg. Mowry sh. 7,817 ft.

Niobrara County

The Adams Oil & Gas Co.-Felmont Corp. No. 1 Baker, which marks an important extension of the Leo sand productive area in Lance Creek, flowed 60 bbls. in two hours from the Leo sand at 5,626 feet, total depth, and then was swabbed. At last report it was swabbing 15 bbls. per hour and was preparing to acidize.

Continental Oil Co. No. 7-B Schuricht, NE SW SE Section 6-35n-65w, was completed in the Sundance sand for 140 bbls. per day at 3,938 feet after plugging back from 4,010 feet to shut off bottom water.

The Ohio Oil Co. No. 1 Leo-O.P.C.-7, the most easterly well in the field drilled to the Leo sand, is pulling tubing to drill deeper. This well will be watched with considerable interest as it probably will go to the Bell sand at the base of the Minnelusa, which has been tested in only one well, the Continental Oil Co. No. 10 Tom Bell, C SW NW Section 34-36n-65w. The Continental well went to 6,256 feet in 1937 and results in the lower horizon were not reported at the time. It was rumored, however, that it cored saturated sand below the Leo at an undisclosed depth and then plugged back to the Leo and was completed as a producer. It is generally believed that saturation will be found in the field in beds below the Leo, in which event the importance of Lance Creek will be greatly enhanced.

Continental Oil Co. No. 14 Tom Bell, C NW SW Sec. 34-36n-65w. Drlg. 354 ft.; 13⅜-in. at 313 ft.
Continental Oil Co. No. 3 Apex-4, SE SW NW Sec. 35-36n-65w. Drlg. 4,836 ft.; basal Sundance 4,110-15 ft.
Argo Oil Co. No. 9 Elliott, NW SE SE Sec. 5-35n-65w. T.D. 3,979 ft. in sat. sd.; 7-in. cmtd. 3,931 ft.; tstg.
Ohio Oil Co. No. 6 Leo-O.P.C.-16, NW NE SW Sec. 35-36n-65w. Drlg. 5,541 (C.D.) ft.; top Converse 4,968 ft.

Park County

Dry Creek Oil Co. No. 1 State, C NE NW Sec. 16-50n-100w. T.D. 150 ft.; cmtd. 10-in.; prep. to drill plug.

Platte County

Bill Griffin et al No. 1, NE SE NE Sec. 18-30n-67w. S.D. 550 ft.

Sublette County

Texas Co.-Frontier Pet. Co. No. 1 Unit, SE SE SW Sec. 1-28-11w. T.D. 6,247 ft.; C.O.
Yellowstone Oil Co. No. 1, 200 ft. N of S line of the H. L. Budd rnh., SE SE Sec. 31-13n-112w. S.D. 10 ft.
Progressive Oil Co. No. 1 Haddenham, C NE SE Sec. 21-28n-113w. S.D. 835 ft.
Wyoming Pet. Corp. No. 1 Budd, C NE NE Sec. 10-29n-113w. T.D. 1,792 ft.; reported control head installed and gas S.I.

Sweetwater County

Sinclair-Wyo. Oil Co. No. 81, SW NW NW Sec. 11-26n-90w. Drlg. 2,040 ft.
Sinclair-Wyo. Oil Co. No. 82, NE SW SW Sec. 11-26n-90w. Drlg. 655 ft.; 12½-in. at 33 ft.; top Wall Cr. 357 ft.

MONTANA

Big Horn County

Buzetti & Corkins No. 1, NE NW Sec. 23-1s-32e. M.I.M.

Blaine County

Walter Drought No. 1 Stam, CSL SW SE Sec. 20-31n-18e. Drlg. 950 ft. (Formerly G. R. Teeters.)

Carbon County

Valentine M. Kirk et al No. 1 Robinson, SW SW NW Sec. 2-7s-21e. Cmtd. 10-in. at 2,021 ft. and S.D. until spring.
Alex Beaton No. 1, CSL SE SE Sec. 23-6s-23e. T.D. 1,580 ft.; landed 6¼-in. on bttm.
R. C. Tarrant No. 2, SE NW Sec. 4-6s-18e. Drlg. 2,910 ft.
Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW Sec. 35-9s-23e. S.D. 1,810 ft.
Miracle Oil Co. No. 2 Govt., CWL NE SE Sec. 4-6s-23e. S.D. 2,381 ft.

Cascade County

E. B. M. Oil Co. No. 1 Betts, CSL NW SE Sec. 34-18n-4e. T.D. 1,250 ft.; prep. to res.

Choteau County

Security Pet. Corp. No. 1 Johnson, C NE Sec. 23-26n-3e. S.D. 1,991 ft.; S.D. for 6⅝-in.; Sunburst 1,935-53 ft.

Dawson County

Frank C. Hughes No. 1 fee, NW NE SE Sec. 5-14n-55w. Drlg. 1,065 ft.

Daniels County

White Tail O. & G. Co. No. 2 Wiley, NW NW NW Sec. 10-36n-50e. Drlg. 1,928 ft.

Fallon County

Montana-Dakota Utilities Co. No. 45, Unit 7, SE NW SW Sec. 25-6n-60e. Drlg. 320 ft.

Fergus County

Baughman & Singley No. 1 Skaggs, C NW SW Sec. 7-15n-20e. S.D. 1,080 ft. (C.D.); in lower Quadrant.
Emmons et al No. 5 Stocker, SW NW SW Sec. 24-22n-18e. Drlg. 950 ft.

Glacier County

Depth of principal horizons in Nadeau Brothers No. 1 Government, north of the Cut Bank field and three-fourths of a mile southeast of the Yukon Oil Co. No. 1 Lungren, the discovery in the Moulton sand, were released this week and are as follows: Moulton sand, 2,652-80 feet, dry; Sunburst sand, 2,710-70 feet, with a show of oil at 2,735-52 feet and 1½ bailers of water per hour at 2,763-68 feet; and Cut Bank sand at 2,775-2,805 feet, dry at 2,775-2,800 feet and sulfur water at 2,800-05 feet, water rising 1,400 feet in the hole. It was then plugged back to 2,752 feet and shot with 30 quarts at 2,735-52 feet, and is now cleaning out cavings. Elevation is 3,883 feet.

Cut Bank had one completion and two new operations. The Glacier Production Co. No. 3 Neill, SE SE NE Section 20-33n-5w, swabbed 67 bbls. the first 17 hours at 2,980 feet, total depth, from Cut Bank sand at 2,948-78 feet, with the 7-inch at 2,951 feet.

Same company's No. 4 State, reported a completion last week, swabbed 17 bbls. per day initially.

Glacier Prod. Co. No. 2 Sceuren, C SW SW Sec. 20-33n-5w. M.I.M.; (first report).
Glacier Prod. Co. No. 5 State, C NW NW Sec. 16-35n-5w. R.U.; (first report).
Glacier Prod. Co. No. 3 O'Brien, C SW SW Sec. 32-34n-5w. Drlg. 1,460 ft.
Nadeau Bros. No. 1 Govt., NW SW NW Sec. 25-37n-5w. T.D. 2,805 ft.; C.O.
Santa Rita O. & G. Co. No. 3 Lander, C S½ SE Sec. 16-35n-6w. Drlg. 1,855 ft.

Judith Basin County

Fletcher E. Hunt No. 1 Doven, SE NE NW Sec. 30-14n-15e. Spd. and S.D.

Park County

Ben Ryan et al No. 1 Burgess, SE SW NW Sec. 28-2s-11e. Drlg. 1,550 ft.

Petroleum County

H. Clark Rowland No. 1 Brundidge-Mink, SE NW Sec. 35-14n-25e. S.D. 110 ft.
Watson Oil Co. No. 1 Austed, SW NW SE Sec. 22-13n-28e. T.D. 1,150 ft.; will U.R. 10-in. from 850 ft.
O. B. Canfield No. 2 Govt., SE NE NE Sec. 21-17-24e. S.D. 780 ft.

Richland County

W. M. Fulton No. 1 Richardson, SW SW SE Sec. 29-26n-52e. Drlg. 540 ft.; small S.W. at 435 ft.

Teton County

Zodiac Oil Co.-Gulf States Oil Co. No. 1 Kellogg, NE NW NE Sec. 33-28n-5w. S.D. 2,020 ft. for D.P.

Gulf States Oil-Zodiac Oil Co. No. 1 Coffee-Wallenstein, SW SW SW Sec. 5-27-5w. S.D. 2,525 ft. until spring.

Toole County

Kevin-Sunburst had two completions and two new operations. The Neptune Oil & Gas Co. No. 7 Seabrook, NW NW SW Section 19-35n-2w, pumped 35 bbls. the first 24 hours with no water at 1,580 feet, total depth, from the Sunburst at 1,313-18 feet, after acidizing with 1,000 gallons.

Platt-Bell No. 1 Government, NW SW NE Section 9-34n-2w, was plugged and abandoned at 1,487 feet. It had 200 feet of water in the Sunburst at 1,495-1,523 feet.

Coolidge & Coolidge No. 3-A State, NW NE NW Sec. 36-36n-2w. Spdg. 70 ft.; (first report).
G. & A. Oil Co. No. 12 Goeddertz, SE NE SW Sec. 23-35n-3w. Drlg. 310 ft.; (first report).
Superior Pet. Co. No. 11 Govt., CEL NW SW Sec. 12 35n-3w. Drlg. 990 ft.
Big West Oil Co. No. 9 Gunderson, NW SE NW Sec. 19-35n-2w. Drlg. 1,420 ft.
K. C. Morton No. 1 Osthoff, SW SW SE Sec. 1-35n-3w. Drlg. 1,525 ft.
Kippen O. & G. Co. No. 1 Thompson, C NE SE Sec. 28-34n-1e. Spdg.
Sid Porter No. 1 Bradley, SE cor. Sec. 3-34n-2w. Drlg. 970 ft.
Kluth et al No. 2 Gunderson, SW cor. Sec. 18-35n-2w. Drlg. 1,585 ft.; 6⅝-in. 1,537 ft.; T.D. 1,790 ft.; 555,000 ft. gas in Sunburst, 1,552-62 ft.; T. contact 1,786 ft.; S.O.; will acd.
C. L. Smith, Agt., No. 1 Govt., SW SE NW Sec. 13-35n-2w. S.D. 1,045 ft.
Aspen O. & R. Co. No. 1 Govt., C NE SE Sec. 25-36n-3w. S.D. 2,050 ft.
Chas. Grant et al No. 1 Anderson, SE NE NE Sec. 26-35n-4w. S.D. 2,109 ft.

Yellowstone County

Riverton Oil Co. No. 1 Fox, CEL NW NE Sec. 14-2n-23e. T.D. 1,990 ft.; rng. 6¼-in.

UTAH

Grand County

Cane Creek Oil Co. No. 1 Govt., NW SW Sec. 31-26n-21e. Drlg. 2,538 ft.; out of salt at 2,530 ft.; S.O.&G.
Crescent Eagle Oil Co. No. 1 Brendel, SW SE Sec. 4-22s-19e. Drlg. 4,110 ft.

Summit County

Longwell Pet. Co. No. 1, SE SW SE Sec. 35-3n-5e. T.D. 2,876 ft.; sdtrkg.

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Michigan Field Report

By
O. C. PRESSPRICH

Freeman Field Has 2,000-Barrel Well; One Extension

SAGINAW, Mich., Jan. 30.—Except for one substantial producer, in the Freeman (18n-6w) field of Clare County, rated at 2,000 bbls. or more daily, natural flow, Michigan oil fields showed little last week in the way of additions to production totals. But there was one extension of an already proved field and the tapping of a possible new pool. The week's completion list was spotted with 10 wells listed either as dry or abandoned because of irregular formations or poor shows of oil.

The week's one big well was Charles W. Teater No. 3 Van Horn, SW NW NE Section 3, Freeman Township, brought in for an estimated 2,000 bbls. daily at a depth of 3,868 feet. Though a fine producer, it was in well proved territory and did nothing toward extension of the field.

The field extension was recorded by F. P. Hurt No. 1 Healy, SE NE SE Section 7, Bloomingdale Township (1s-14w), Van Buren County. It stepped up production to 1,200 bbls. daily after an acid treatment. Its formations were reported higher than in adjacent producers and it was considered a north and west extension. Its total depth was reported as 1,220 feet, with production from the Traverse limestone.

Opening of a possible new pool in Salem Township (4n-13w), Allegan County, was seen at No. 1 Sutter of Gordon Oil Co. and Victor Wilson, SW NW NW Section 11. The well, north of other Salem production, showed 100 bbls. naturally, but on acid treatment increased production to 620 bbls. daily.

Dry holes and abandonments were scattered liberally throughout the Michigan fields, but with most of them concentrated in the Bloomingdale area of Van Buren County.

The week's completions:

Allegan County

Monterey Township (3n-13w)—C. E. White No. 1 Mary B. Tau, SE NW NE Section 36, dry.

Overisel Township (4n-14w)—Walter H. Koelbel No. 1 Busscher, NW NW NE Section 27, 165 bbls. on pump before acid.

Salem Township (4n-13w)—Gordon Oil Co. and Victor Wilson No. 1 Sutter, SW NW NW Section 11, 620 bbls., acidized. F. B. Northcott No. 5 Lambert Schipper, SW NE NW Section 21, 100 bbls., acidized.

Clare County

Freeman Township (18n-6w)—Charles W. Teater No. 3 Van Horn, SW NW NE Section 3, 2,000 bbls., natural flow.

Huron County

Sand Beach Township (16n-15e)—Dale Leonard Prospecting Co. No. 1 Huron Milling, NW NE SE Section 10, dry.

Midland County

Edenville Township (16n-1w)—Sun Oil Co. No. B-16 State-Edenville, SW SW SE Section 27, dry.

Montcalm County

Richland Township (12n-5w)—R. A. Whitehead No. 1 National Life Insurance, C SW NW Section 29, dry.

Muskegon County

Moorland Township (10n-14w)—West Michigan Consumers Co. No. 1 Weaver, C SE Section 33, initial 360,000 cu. ft. gas.

Van Buren County

Bloomingdale Township (1s-14w)—F. P. Hurt No. 1 Healy, SE NE SE Section 7, 1,200 bbls. after acid. R. D. Jenkins No. 1 A. Allen, SW NW NW Section 12, abandoned. Pyramid Oil Co. No. 1 George Kercher, NW NW SW Section 13, abandoned. William P. Shoemaker No. 1 Frank Santche, SW NW SW Section 13, abandoned; No. 1 Leonard Sage, SE SE NE Section 14, abandoned. White Star Drilling Co. No. 1 S. Bliss, SE SE SW Section 15, dry.

Columbia Township (1s-15w)—Fred J. White No. 1 May N. Gruss, SW SW NE Section 7, dry.

Kansas Fields

(Continued from Page 61)

Branine and others No. 2 Hagen, SE SE NW Section 29-20-11w, was rigging up rotary. Gulf Oil Corp. No. 5 Nicholas, NW SE NW Section 12-20-11w, set casing and was waiting on cement at 203 feet.

Russell County

Cities Service Oil Co. completed a 2,033-bbl. potential producer at No. 1 Hennessey, SW SW SE Section 26-15-14w, Schneider pool, Russell County. It penetrated Arbuckle lime at 3,352-55 feet, total depth, and pumped 678 bbls. of oil in eight hours.

The only new test reported in Russell County the past week was Sinclair Prairie Oil Co. No. 1 Sellens, SW cor. Section 15-15-13w, building rotary rig.

McPherson County

Continental Oil Co. No. 8 Graber, CW half E half NW Section 32-21-1w, Graber field, McPherson County, topped Hunton lime at 3,276 feet, drilled in lime to 3,306 feet, total depth, and pumped 146 bbls. of oil in eight hours, making potential of 437 bbls.

New activity in McPherson County: H. & M. Drilling Co. No. 1-A Lagree, NW cor. Section 31-19-1w, a cellar; Bennett & Grossman No. 1 Suffield, SE cor. Section 25-19-2w, cellar; Marylyn Oil Co. No. 1 Suffield, NE SE SE Section 25-19-2w, spudded.

Cowley County

Trees Oil Co. No. 5 Lewis, SE NW NE Section 28-31-4, an old well in the Hittle pool, Cowley County, originally bottomed at 3,353 feet, was deepened to 3,358 feet, pumped 635 bbls. of oil in eight hours and made potential of 1,906 bbls. It had made original potential of 488 bbls. of oil in 24 hours. Arbuckle lime was topped at 3,350 feet.

W. M. McKnabb No. 2 Byers Land Co., NE SE NW Section 21-32-5, Frog Hollow area, found Bartlesville sand at 3,035-63 feet, total depth, pumped 189 bbls. of oil in eight hours and had potential rating of 568 bbls. daily.

Campbell Drilling Co. No. 1 Union Central, SW SW NW Section 28-30-3e, topped Kansas City lime at 2,450 feet, Mississippi lime 3,020 feet, and was dry and abandoned at 3,045 feet, total depth.

One new Cowley County operation was reported at W. M. McKnabb No. 1-A Moon, SW SW SE Section 16-32-5, moving in material.

Butler County

Landon & Allison No. 1 Shriver, NE NW NE Section 28-27-6, Stern area, Butler County, found Viola lime at 3,083-85 feet, total depth, was acidized with 1,000 gallons and pumped 30 bbls. of oil in 24 hours.

Ray Horn No. 1-A Creed, NW SE SW Section 17-29-4e, Douglas area, was reported temporarily abandoned at 150 feet.

Rex & Morris No. 2 Johnson, SE cor. Section 20-26-7, Guenther pool, had Kansas City lime at 2,185-91 feet, was bottomed at 2,195 feet, and was completed for 24-hour potential of 30 bbls. of oil.

Greenwood County

Hart Brothers No. 6 Sharpe, SW NE NW Section 5-24-13, Virgil field, Greenwood County, penetrated Mississippi lime from 1,619 feet to 1,631 feet, total depth, and pumped 12 bbls. of oil and 36 bbls. of water in 24 hours. It was rated potentially at 10 bbls. of oil daily, with 30 bbls. of water.

Other New Activity

Barbara Oil & Gas Co. No. 1 Wilson, C SE Section 17-33-13w, was building rig. Classed as a wildcat, it is three-fourths of a mile west of production in the Medicine Lodge oil and gas field in Barber County, and is on acreage farmed out by Indian Territory Illuminated Oil Co. Springrose Drilling Co. has the contract for an Arbuckle lime test. Gas production in the Medicine Lodge field is from the Mississippi zone, while oil production is from Viola lime.

Olson Oil Co. No. 1 Coffman, NW NW NE Section 25-31-12w, was location for a Barber County wildcat, northeast of the Whelan pool.

C. L. Carlock No. 1 Teeter, SW cor. Section 30-22-4w, was location for a well in the new Buhler pool, Reno County.

Gulf Coast Fields

(Continued from Page 63)

No. 1-E Lackner, perforated casing 7,709-19 feet, 619 bbls., quarter-inch choke. Fairbanks field: Amerada-Stanolind Oil & Gas Co. No. 5 Davis, perforated casing 6,840-43½ feet, 139 bbls., eighth-inch choke; No. 3 Dawson, perforated casing 6,831-34 feet, 155 bbls., eighth-inch choke; No. 5 Denman, perforated casing 6,836-39½ feet, 133 bbls., eighth-inch choke; No. 3 Munger, 6,842 feet, 153 bbls., eighth-inch choke; No. 2 Thompson, perforated casing 6,846½-49½ feet, 200 bbls., eighth-inch choke. Moore & Ahern No. 3 Whitehead and others, sand 6,844-52 feet, 136 bbls., eighth-inch choke. Noble & Baker No. 1 Hillegeist, sand 6,829-49 feet, 151 bbls., quarter-inch choke. Friendswood field: Humble Oil & Refining Co. No. 2-B Humble-West, sand 5,727-6,045 feet, 605 bbls., quarter-inch choke; No. 1-B Humble-West, sand 5,725-6,044 feet, 594 bbls., quarter-inch choke; No. 18 Gray, sand 6,032-43 feet, 584 bbls., quarter-inch choke. Tomball field: Humble Oil & Refining Co. No. 3 Michel, 5,554 feet, gas well.

Liberty County

Hardin field: Commerce Oil Co. No. 1 Partlow, sand 7,586-7,612 feet, 363 bbls., quarter-inch choke. Woodley Petroleum Co. No. 2 Humphrey, perforated casing 7,567-76 feet, 270 bbls., quarter-inch choke.

Orange County

Orange field: C. L. Brown, 5,511 feet, 134 bbls., eighth-inch choke.

Polk County

Segno field: Gulf Oil Corp. No. 15 Wing, sand 8,052-74 feet, 693 bbls., quarter-inch choke.

Wharton County

Kubela field: Gilcrease Oil Co. No. 2 Kubela, sand 4,688-98 feet, 108 bbls., eighth-inch choke. Magnet field: Humble Oil & Refining Co. No. 8 Cockburn, 5,541 feet, 120 bbls., eighth-inch choke. Withers field: Texas Co. No. 4 Broussard, 5,546 feet, 114 bbls., eighth-inch choke.

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Southwest Texas District

By
F. L. SINGLETON

New Distillate Pool in Jim Wells County Deep Horizon

CORPUS CHRISTI, Tex., Jan. 30.—The Frio-Vicksburg trend received its first field of the new year as Shell Petroleum Corp. opened distillate production near the town of La Gloria, southern Jim Wells County, with the completion of No. 1 Von Blucher, in the Lucinda Vest Survey. Production was obtained by perforating casing at 7,505-60 feet and the well flowed 6 bbls. of distillate in five hours through an eighth-inch choke under a tubing pressure of 3,350 pounds and casing pressure of 150 pounds. The company is having trouble with the flow lines freezing up, and the well may be killed and recompleted. This well has been looked upon as a pool opener for several weeks as numerous sands have been logged The hole was originally drilled to a depth of 7,845 feet where mechanical trouble developed, and the hole was plugged back, sidetracked and redrilled to its present depth of 7,575 feet.

To the north and located in the South Alice field, operators were watching the progress of Henshaw Brothers and others No. 1 Thigpen, an outpost test one-half mile northeast of production which is reported to have cored saturation at 5,168-5,213 feet, and is coring ahead for the 5,300-foot sand. This well is in an area which has produced gas or distillate, and if productive of oil, will result in an extensive drilling campaign in what is generally referred to as the East Alice area.

In the Riverside gas field, Nueces County, Seaboard Oil Co. No. 2 Wilson, 4,000 feet west of the discovery well, which is attempting to open the first oil production on the structure, was flowing into pits through an eighth-inch choke at the close of the week, showing gas and wash water, with no evidence of oil, and the well may be killed and recompleted. The casing was perforated at 4,994-97½ feet, and the well is flowing under a tubing pressure of 500 pounds and casing pressure 1,700 pounds. On a drill-stem test last week at 4,985-96 feet, 150 feet of 33-gravity oil was recovered.

Two more locations were made in Riverside area, both of which are being drilled on farmed-out leases from Shell Petroleum Corp. Offsetting the present test to the south, H. D. & H. Oil Co. staked location for No. 1 C. C. Wright in the V. L. De Herrera grant, while 5,024 feet west of No. 2 Wilson, Henshaw Brothers have derrick up for No. 1 H. D. Countiss. Approximately 2 miles southeast, drilling has started on two wildcats, Heep Oil Corp. No. 1 Smith, and Republic Natural Gas Co. No. 1 Seaboard. The completion of a good producer would start extensive drilling as the district is divided into many ownerships.

McCampbell Wildcats

Interest in the McCampbell field of Aransas and San Patricio counties the next few weeks will be centered on two wildcats that will define production or make important extensions to the field. Richardson Petroleum Co. spudded No. 1 Sherwood, 1½ miles south of the company's No. 1 Mills, the most westerly producer, while L. Bradstreet is preparing to spud No. 1 McCampbell, 3 miles west of the field in the Peter Mahoney Survey. There were six completions reported during the week, and approximately 19 wells are drilling. Production is being gradually pushed within the Port Aransas City limits where approximately 37 permits are reported to have been made.

Prospects of opening commercial oil production in the White Point gas field were considered good as casing was being run in J. B. Cage and others No. 1 Kate Dunn, on the eastern edge of the field. The well is bottomed at 5,676 feet, at which depth a drill-stem test is reported to have recovered several hundred feet of oil and mud.

Two miles north of the Ricon field, Starr County, D. D. Oil Co. continues to test No. 1 Dallas Joint Stock Land Bank which has shown indications of opening another important field along the southern portion of the Frio-Vicksburg trend. Perforations were made at 3,935-45 feet and the well swabbed a small amount of oil and gas. Additional perforations were made at 3,954-62 feet, and on a one-hour drill-stem test 2,430 feet of oil and mud, 180 feet of oil, and 540 feet of salt water was recovered. These perforations have been squeezed off with cement, and it is reported that another test will be made at approximately 4,100 feet.

Will Drill on Kenedy Ranch

The Brooks County side of the Kelsey field was being extended about 1,800 feet south as Humble Oil & Refining Co. cemented casing in No. 3 McGill Brothers at 4,720 feet. The Kenedy ranch which extends over practically all of Kenedy County is to be prospected by Humble Oil & Refining Co. which is preparing to start drilling operations about 22 miles east of Sarita in the El Penascal grant. The well is located on a 144,316-acre lease, and is one of the few wells to be drilled in the county.

In the north half of Zapata County, Thompson & Lowe No. 1 Ramerez, Porcion 18, indicated the discovery of a shallow field along the Laredo-Pettus trend. Hard sand with an odor of oil was cored at 2,331-33 feet, medium firm sand with an oil odor was logged at 2,333-38 feet, and sand and sandy shale was cored to a total depth of 2,343 feet. No drill-stem test was attempted and the well has been shut down.

Two more tests in the newly opened Longhorn field, Duval County, had cored the sand, while location for an important wildcat was made. Hiawatha Oil & Gas Co. No. 7 Miller cored oil sand at 4,912-20 feet, the total depth, and casing was cemented on bottom. Henderson & Coquat No. 2 Miller logged oil sand at 4,891-97 feet, the total depth, and casing was cemented on bottom. Approximately 2½ miles south of production, Al Buchanan was preparing to spud No. 1 Atlee Parr, 466 feet east of the Ball ranch subdivision, and 400 feet south of a 700-acre lease in the San Andres grant. Location for another wildcat was announced for the county by Hamill & Smith who located No. 1 G. Perez in the Concepcion grant, about 12 miles southeast of Realitos.

Still Testing a Prospect

South of the Ezzell field, and located in Live Oak County, Section 59, B.S.&F. Survey, R. P. Holland and others No. 1 Bonham was being swabbed in an attempt to make a production test of the Government Wells sand. This test showed indications of opening a new field last week as a drill-stem test recovered 150 feet of oil-cut mud.

In the newly opened North Killam field, Webb County, two wells were in the process of completion. Superior Oil Co. No. 1-C Laurel Brothers was being completed in sand at 2,035-42 feet, while Merle Norton No. 1 Laurel Brothers was testing through perforated casing at 2,535-44 feet.

San Antonio District

Interest in the Balcones Fault line district was centered on the Edwards lime test of Hickok & Reynolds No. 1 San Antonio Joint Stock Land Bank, 8 miles northeast of Moore, in the S. W. Thomas Survey. This well topped Georgetown lime at 3,450 feet, and Edwards lime at 3,494 feet. Medium porous lime with an oil odor was cored at 3,499-3,500 feet, but a drill-stem test at 3,470-3,500 feet showed mud with no pressure. Six inches of hard lime with no show was recovered at 3,500-12 feet, and 18 inches of hard lime with an oil odor and stain was recovered at 3,512-18 feet. However, a drill-stem test of the section developed only drilling mud, and the hole is being cored ahead below 3,535 feet.

In Lee County, Fred Pederson and others No. 1 Brown, in the Tangleford area, David Hudson Survey, was placed on the pump, but before it was possible to determine what the well would produce, the pumping equipment broke down. This test is bottomed in the Edwards lime at 6,404 feet with casing cemented at 6,380 feet.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

Aransas County

McCampbell field: Atlantic Refining Co. No. 2 Cameron, perforated casing 7,201-05 feet, 240 bbls., three-sixteenths inch choke.

Caldwell County

Dale field: Ralph Ogden No. 1 Dinges, 2,571 feet, abandoned. Walnut Creek field: Fred Shield No. 1 Ray, 1,477 feet, abandoned.

Calhoun-Victoria Counties

Heyser field: Gulf Oil Corp. No. 12-B Traylor, 5,490 feet, 141 bbls., quarter-inch choke. Gulf Oil Corp. No. 16-B Traylor, sand 5,482-96 feet, 196 bbls., eighth-inch choke. Humble Oil & Refining Co. and others No. 10 Vandenberge, 5,488 feet, 264 bbls., three-sixteenths inch choke.

Duval County

Benavides field: Hiawatha Oil & Gas Co. No. 10 Southland Life Insurance Co., perforated casing 5,298-5,306 feet, gas well. Fitzsimmons field: H. J. Porter No. 9 Driscoll, perforated casing 4,325-40 feet, 136 bbls., 5/32-inch choke. Hoffman field: Rowan & Hope, Inc. No. 3-B Cuellar, sand 2,535-60 feet, 110 bbls., half-inch choke. Cox, Hamon and others No. 15 Cuellar Points, sand 2,586-93 feet, 95 bbls., jetting. Magnolia Petroleum Co. No. 23 Well, sand 2,768-88 feet, 60 bbls., half-inch choke. Rancho Solo field: H. H. Coffield and others No. 1 W. R. Peters, 1,901 feet, abandoned. Lanning & Evans No. 5 Peters, perforated casing 1,856-64 feet, 54 bbls., pumping.

Guadalupe County

Darst Creek field: Texas Co. No. 9 Anderson, lime 2,537-46 feet, 184 bbls., pumping and flowing.

Jim Hogg County

Kelsey field: Humble Oil & Refining Co. No. 5 Bass, perforated casing 4,700-10 feet, abandoned. Humble Oil & Refining Co. No. 2 McGill Brothers, 4,773 feet, 140 bbls., 11/64-inch choke.

Jim Wells County

South Alice field: R. B. Bryant No. 1 Mary Susan Ingram, perforated casing 5,151-61 feet, 40 bbls., three-sixteenths inch choke. Allen Davis No. 1 White, 3,608 feet, abandoned. Tom Graham No. 1-E Bankers Mortgage, perforated casing 5,332-36 feet, 85 bbls., 3/32-inch choke. Lewis Production Co. No. 1 Mosser, 6,094 feet, abandoned.

McMullen County

Ezzell field: E. M. Jones No. 49 Ezzell, perforated casing 1,537-49 feet, 60 bbls., pumping. E. M. Jones No. 50 Ezzell, perforated casing 1,532-40 feet, 63 bbls., pumping. E. M. Jones No. 52 Ezzell, perforated casing 1,474-81 feet, 66 bbls., pumping. E. M. Jones No. 53 Ezzell, perforated casing 1,487-90 feet, 66 bbls., pumping. E. M. Jones No. 54 Ezzell, perforated casing 1,483-86 feet, 102 bbls., pumping. E. M. Jones No. 55 Ezzell, perforated casing 1,480-84 feet, 60 bbls., pumping. Munson field: Bishop Oil Co. No. 4-B Nueces Land & Livestock Co., sand 1,194-1,206 feet, 10 bbls., pumping. Ohio

(Continued on Page 83)

Oklahoma Operations

By
DAL DALRYMPLE

Two New Oil Wells at Coyle; Ramsey Test Nears Decision

The St. Louis district in Pottawatomie County, nearby pools in Seminole County, the Cement field in Caddo County and the Sac and Fox area in Lincoln County continue to account for much of the field activity in Oklahoma. Several completions and new operations were recorded in each of those areas the past week, St. Louis leading with six new wells completed and the Sac and Fox sector setting the pace in new work with nine first reports. The fields of Creek and Okmulgee counties continue busy, with several completions and new operations being reported almost every week. Other tools that held interest for observers the past week included the Coyle area in Payne County, with two oil producers completed, and the Ramsey field in the same county where a prospective extension well was nearing a decision.

Stanolind Oil & Gas Co. and others No. 1 Walters, SW SW NE Section 18-18-2e, east of production and outside the community block in the Ramsey pool, found Hunton lime at 4,597 feet and in a core from 4,595 feet to 4,613 feet recovered 2 feet of Woodford shale and 16 feet of saturated lime. Operators were reported coring ahead below 4,613 feet. It was said to be running somewhat lower structurally than producers in the field. If it is not found productive in Wilcox sand, the well may be plugged back and an effort made to complete a Hunton lime producer. The Ramsey pool has been defined on the north, west and south, but eastern limits have not been determined. Three wells are being drilled on the community block.

Payne County

Two producers were completed in the Coyle pool, a Payne County discovery of 1938. Texas Co. and Transwestern Oil Co. No. 1 Minnich, NE cor. Section 11-17-1e, flowed 780 bbls. of oil in 24 hours from Wilcox sand at 4,902-39 feet. Gas was estimated at 600,000 feet. The hole was bottomed at 4,962 feet.

Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Bock, CW half SW NW Section 12-17-1e, found Wilcox sand at 4,869-4,913 feet, total depth 4,922 feet, and flowed 522 bbls. of oil in 24 hours, with 494,000 feet of gas daily. The pool was opened last June by Texas Co., the discovery well being completed for 525 bbls. of oil daily.

Lincoln County

The Sac and Fox pool in Lincoln County continued to rate as one of the busier Oklahoma areas, two producers being completed the past week and nine new tests being reported for the first time.

Cooper Drilling Co. completed one of the larger producers in the pool at No. 1 School Land, SE SE NE Section 16-14-6. It found Prue sand at 2,951-3,065 feet and was bottomed at 3,066 feet. On initial test, it flowed 225 bbls. of oil, with 1,500,000 feet of gas, in 24 hours.

Wilcox Oil & Gas Co. No. 2 Terry, SE cor. Section 9-14-6, topped Prue sand at 3,039 feet, was bottomed at 3,139 feet, and flowed 180 bbls. of oil in 24 hours. Gas was estimated at 1,500,000 feet daily.

New work in Lincoln County: Cooper Drilling Co. No. 2 School Land, SW SE NE Section 16-14-6, building rig; No. 4 School Land, NW NE NE Section 16-14-6, spudded; No. 5 School Land, SE NE NE Section 16-14-6, drilling below 1,287 feet; No. 6 School Land, NE cor. Section 16-14-6, building rig; No. 7 School Land, SW NE NE Section 16-14-6, spudded; No. 8 School Land, NW NE NE Section 16-14-6, location. Coralena Oil Co. No. 3 Sac and Fox, NW NE SE Section 16-14-6, location; No. 4 Sac and Fox, SW NE SE Section 16-14-6, location. Wilcox Oil & Gas Co. No. 23 Sac and Fox, SE cor. Section 16-14-6, rig.

Pottawatomie County

Denver Producing & Refining Co. No. 3 Villines, NW SE SW Section 36-7-4, St. Louis district, Pottawatomie County, topped dolomite at 4,147 feet, total depth 4,290 feet, was acidized with 6,000 gallons and produced 390 bbls. of oil in 24 hours.

Same company's No. 1-A Houck, SE NW NW Section 1-6-4, was completed for 35 bbls. of oil daily after plugging back from total depth of 4,429 feet to 4,242 feet. Top of dolomite was 4,046 feet. It was acidized.

Pioneer Drilling Co. No. 2 Waters, SW NE NW Section 35-7-4, was abandoned at total depth of 4,358 feet.

Same company's No. 1 Green, NW NW SE Section 29-7-5, was an abandoned location.

Sinclair Prairie Oil Co. No. 7 Nadash, SE SW NW Section 29-7-5, found dolomite at 4,060 feet, was bottomed at 4,165 feet, acidized with 9,000 gallons, and had initial yield of 225 bbls. of oil.

Big Chief Drilling Co. No. 2 Canfield, SW cor. Section 33-7-5, was completed for 410 bbls. of oil initially at 4,155 feet, total depth. Simpson dense was topped at 4,110 feet, and it was acidized with 3,000 gallons.

Helmerich & Payne, Inc., No. 2 Roberts, C N half SE SE Section 3-8-4, topped Hunton lime at 4,105 feet, total depth 4,160 feet, was treated with 5,000 gallons of acid and produced 112 bbls. of oil in 24 hours.

Atlantic Refining Co. No. 1 Harris, NE NW SW Section 6-6-4, was good for 190 bbls. of oil in 24 hours from dolomite topped at 4,268 feet, total depth 4,605 feet.

First reports of new work in Pottawatomie County: McIntyre-Sherman & Cummings No. 1 Smith, NW NW SE Section 33-7-5, rigging up rotary; Alma Oil Co. No. 7 Smith, SW SW NE Section 32-7-5, cellar; same company's No. 2 Youts, SW cor. Section 28-7-5, location; Magnolia Petroleum Co. No. 3-B Fyke, NE NW SE Section 20-7-5, drilling below 500 feet; Associated Drilling Co. No. 4 Brown, NE SW NW Section 14-7-4, spudded; Denver Producing & Refining Co. No. 1 Nelson, NW SE NE Section 1-6-4, spudded.

Pontotoc County

Monday Drilling Co. No. 1 Killcrease, NW SE NW Section 7-4-8, North Steedman district, Pontotoc County, found Gilcrease sand at 1,951 feet, was bottomed at 1,958 feet, and had initial yield of 107 bbls. of oil in 24 hours.

Same company's No. 1-A Killcrease, 55 feet west of the No. 1 location, was reported abandoned at 800 feet.

Sinclair Prairie Oil Co. No. 6 McCarty, SE cor. Section 15-2n-7, Fitts district, was bottomed at 1,405 feet, shot with 15 quarts and pumped 73 bbls. of oil daily.

McKeoun No. 1 Flatt, NE NE SE Section 36-5-4, Bebee field, found Viola lime at 2,549 feet, total depth 2,630 feet, was acidized and pumped 16 bbls. of oil daily.

Merrick No. 2 Balthorp, NE SE NE Section 10-4-6, Ada district, pumped 1 bbl. of oil daily and was completed at 1,151 feet, total depth.

Jones & Shelbourne No. 1-A Scrivner, SE SE SW Section 15-2n-7, was building rig. Superior Oil Co. No. 1 Summers, NE NW NW Section 36-5-4, was rigging up rotary.

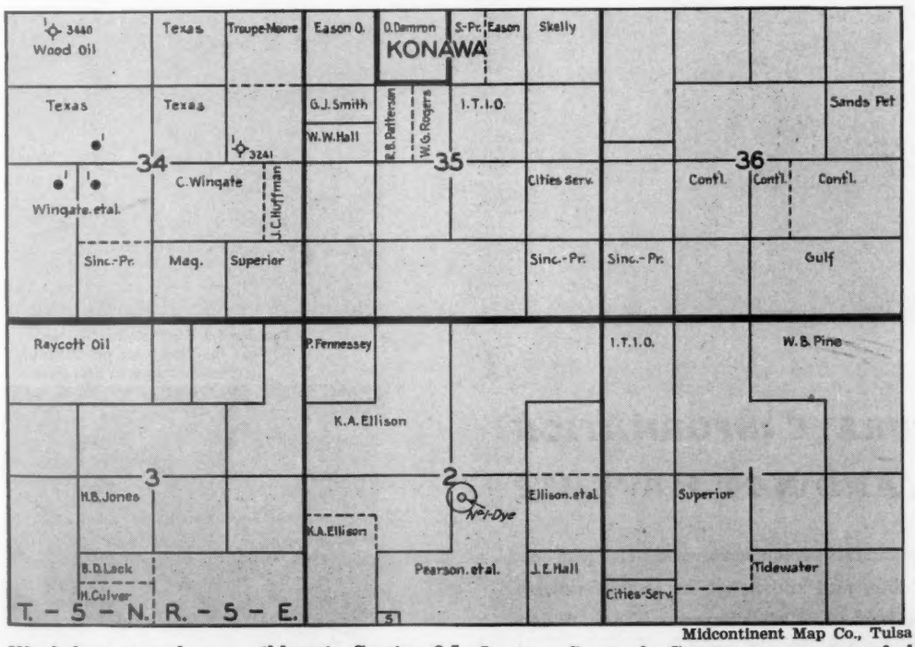
Seminole County

Hall-Troup & Moore No. 4 Snyder, SW NE NW Section 4-6-6, Dora area, Seminole County, was completed for 85 bbls. of oil daily at total depth of 2,835 feet.

Pure Oil Co. No. 8 Reed, NW NW SE Section 14-8-6, Bowlegs area, pumped 15 bbls. of oil daily at 4,192 feet, total depth.

J. F. Smith No. 1 Killingsworth, SW SW NE Section 29-7-6, Hazel district, topped Calvin sand at 2,274 feet, total depth 2,860 feet, plugged back to 2,304 feet and pumped 160 bbls. of oil in 24 hours.

(Continued on Page 80)



Midcontinent Map Co., Tulsa

Work has started at a wildcat in Section 2-5n-5e, in a Seminole County area surrounded by production within a radius of 3 to 4 miles

The Derrick Man sights the target and tightens the clamp for an Oriented Survey shot made on drill pipe.

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INFORMATION

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Superior Oil Co. No. 2 Welden, NW NE NE Section 13-6-5, had dug cellar and pits.

Creek County

Atlantic Refining Co. No. 3 Harjo, NE SW NE Section 27-14-10, Creek County, had a showing of oil at 3,340 feet, was shot, water intruded and it was abandoned at 3,361 feet, total depth.

Gled Oil Co. No. 1 Escoe, SE cor. Section 27-18-8, had Red Fork sand at 2,596 feet, total depth 2,619 feet, was shot with 60 quarts and pumped 30 bbls. of oil in 24 hours.

Lease Investment Co. No. 1-A Miley, NE SW NW Section 28-14-10, was shot with 15 quarts and pumped 65 bbls. of oil daily. It topped Misener sand at 3,242 feet, total depth 3,256 feet.

A. Pepis No. 3-A Lee, SW NE SE Section 12-18-11, found pay at 1,666 feet, was bottomed at 1,684 feet, shot with 30 quarts and pumped 10 bbls. of oil daily.

Link Oil Co. No. 3 Mulkey, SW NW SW NW Section 33-18-7, was dry and abandoned at 3,053 feet, total depth.

Okfuskee-Okmulgee Counties

A 5,000,000 cu. ft. gas well was completed at Wills and others No. 1-A Autry, SW NE SE Section 25-10-11, Weleetka district, Okfuskee County. Top of Booch sand was 2,112 feet, total depth 2,122 feet.

C. O. Grimes No. 5 Wind, NW NW NE NE Section 35-11-9, Okemah area, Okfuskee County, pumped 25 bbls. of oil in 24 hours after a shot and was completed at total depth of 1,485 feet.

Harry Stekoll No. 5-A Holmes, SW NE NE SE Section 16-11-11, pumped 15 bbls. of oil daily after shooting and acidizing and was completed at 2,709 feet, total depth. It is in the Deaner area, Okfuskee County.

Berry Brothers No. 1 White, NE NE SW NE Section 18-14-12, Okmulgee County, was dry and abandoned at 2,790 feet, total depth.

New work in Okmulgee County: J. L. Selby No. 10 Sutton, NW SW SE Section 33-14-14, drilling below 750 feet; B. H. Young No. 5 Miller, CSL NW SE Section 5-15-14, machine; Moffett Brothers No. 1-A Bastable, NE SE NW Section 16-11-12, location.

Hyer & Kirchner No. 1 Board, SE SW NW Section 10-13-10, was location for a new test in Okfuskee County.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ending January 28, and for the preceding week, was as follows:

	Barrels	
	Jan. 28	Jan. 21
Allen	6,100	5,950
Billings	4,900	5,025
Burbank	7,450	7,625
South Burbank	9,225	9,300
Balance Osage	16,600	16,300
Blackwell district	3,875	3,900
Bristow-Slick	6,975	6,700
Chandler	1,775	1,875
Crescent	3,525	3,275
Cromwell	3,025	3,075
Cushing-Shamrock	10,350	10,225
Duncan district	4,200	4,225
Edmond	5,050	5,000
Fish	2,625	2,775
Fitts	32,550	32,225
Jesse	3,025	2,450
Graham-Fox	4,175	4,225
Gray	850	825
Healdton	8,950	9,075
Hewitt	3,500	3,450
Keokuk	3,825	3,675
Konawa	1,225	1,200
Lucien	8,100	7,525
Moore	4,050	4,650
Oklahoma City	99,875	103,525
Olympic	3,125	3,675
Ramsey	2,550	2,500
Sasakwa	1,275	1,300
Sholem-Alechem	2,325	2,350
Seminole district:		
Bowlegs	7,750	7,250
Carr City	2,950	2,725
Dora	4,750	4,500
Earlsboro	4,550	4,025
South Earlsboro	575	450
East Earlsboro	3,950	3,750
Little River	6,750	5,750
East Little River	700	725
Maud	1,025	725
Mission	1,375	1,300
Seminole	7,450	7,125
East Seminole	1,500	1,475
Searight	2,325	2,250
Total Seminole	45,650	42,050
St. Louis-Pearson	25,250	23,750
Tatums	1,850	1,750
Tonkawa-Garber-Thomas	4,150	4,100
Wewoka	2,175	2,050
Yale-Jennings	3,725	3,575
Other pools	83,000	81,750
Total Oklahoma	430,875	426,925

Oklahoma County

Indian Territory Illuminating Oil Co. No. 6 Button, SE SW SW Section 19-11-2w, Oklahoma City field, Oklahoma County, had Pawhuska pay at 3,674 feet, was bottomed at 4,549 feet, and produced 12,000,000 cu. ft. of gas daily.

Olson Oil Co. No. 1 Seaberger, SW SW NE Section 4-12-3w, in the Britton district, Vanek area, was bottomed at 6,778 feet, plugged back to 6,690 feet without making a producer and was abandoned.

Garfield County

Jones Associated Oil Co. No. 1 Wolfe Estate, SE SW NW Section 13-22-4w, wildcat west of the Garber field in Garfield County, had sand at 4,451-54 feet, topped Arbuckle lime at 4,595 feet and was dry and abandoned at 4,626 feet, total depth.

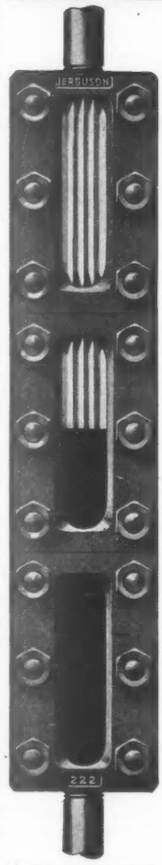
Sinclair Prairie Oil Co. No. 24 Hay, NE NE Section 25-22-4w, Garber field, pumped 16 bbls. of oil daily after shooting with 66 quarts. It was bottomed at 1,446 feet.

Pawnee County

Johnson Oil Refining Co. No. 8 Beyl, SW NW NE Section 27-20-9, Keystone district, Pawnee County,

(Continued on Page 83)

JERGUSON



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California Field Report

By
L. P. STOCKMAN

5,000-Bbl. Extension Well Opens Much New Territory

LOS ANGELES, Calif., Jan. 30.—Completion of Superior Oil Co. No. 1 Cagle, which extended the productive limits of the Southeast Coalinga field to the northeast about one-half mile, and indicated the possibility that the Gatchell zone of Eocene age may extend up around the east end of the East Coalinga field, featured developments in California during the past week. Superior No. 1 Cagle has been given a nominal rating of 5,000 bbls. per day from 7,700 feet. The well was shut in immediately after completion and no potential production test made. It produced about 3,500 bbls. of clean 32.5-gravity oil through a 16/64-inch bean before being shut in. That it is capable of flowing at a much larger rate is evidenced by the fact that it has 590 feet of oil sand and that it came in flowing with three runs of the swab. Approximately 1,000 acres appears to have been proved for production in the Southeast Coalinga field but this may be greatly increased by additional development to the east, southeast, and northeast in which directions no dry holes have yet been drilled. As for ultimate recovery of this field present opinion leans to the belief that a minimum of 75,000 bbls. per acre can be expected. Some estimates range as high as 200,000 bbls. per acre, and while this appears to be high, due to the low gas head, the enormous thickness of saturated oil sand present and the high degree of porosity are undoubtedly factors that will contribute to large production per acre. The water drive at Kettleman North dome is a negligible factor, consequently this will be a factor of considerable importance in the Southeast Coalinga field, because, if the water pressure proves to be the dominating influence in lieu of the relatively small volume of gas present, the estimated recovery of 75,000 bbls. per acre will eventually be found to be very conservative. Operators in this field have produced only a small quantity of crude oil up to the present, and no change is expected to be made in operating policies in the immediate future.

Southeast Coalinga field has produced only 246,217 bbls. of crude oil since discovery last year by Petroleum Securities Co., which concern drilled a joint test in conjunction with Seaboard Oil Corp. and Honolulu Oil Corp., the latter two owning 25 per cent each in the undertaking. Since completion of the discovery well, Petroleum Securities Co., a Doheny holding and operating company, has been dissolved and the stock distributed to the respective owners. Accordingly R. S. Lytle was appointed as operating trustee for Petroleum Securities stockholders and Seaboard Oil Corp. and Honolulu Oil Corp. in this field. In order to shorten the title of the operator and at the same time indicate the participating interest of Seaboard and Honolulu with Petroleum Securities, the name has been unofficially shortened to Petseahon which is the first three letters of each company. Completion of No. 1 Cagle of Superior Oil Co. located in Section 6-20-16 has made it necessary for the Texas Co. and Petseahon to undertake offset drilling on adjoining acreage and for this reason there will be an increase in drilling operations in this field. Petseahon completed No. 37-7-F in Section 7-20-16 in the past week. It flowed 2,500 bbls. of 32.6-gravity oil per day from the Gatchell or Avenal zone of Eocene age, with bottom of the hole at 7,373 feet. The well was finished with a 9⅝-inch water string landed at 6,832 feet and 573 feet of 6⅝-inch liner including 553 feet of perforated. Top of the productive horizon was logged at 6,886 feet. Petseahon No. 71-18-F in Section 18-20-16 topped the Gatchell zone at 7,516 feet and the Glauconitic at 7,491 feet and should therefore result in an early completion. Standard Oil Co. No. 1-17-F, in Section 17-20-16, is drilling ahead in the pay at 7,940 feet after having secured an effective water shut-off on the 9-inch water string cemented at 7,820 feet. Standard has one other well making hole in this field and has just finished erecting derrick for No. 73-13-C, on fee-owned acreage in Section 13-20-15. Texas Co., which owns 160 acres in fee adjoining the Cagle lease of Superior Oil Co., has completed derrick for No. 1 fee in Section 6-20-16. Su-

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

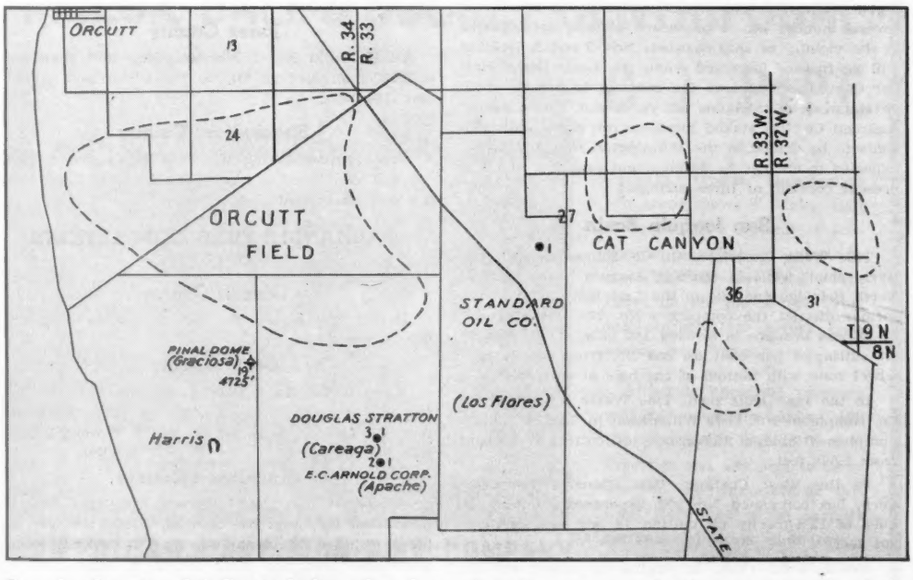
	January 21		January 14			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Fuel oil	.....	.....	.....	.....	61,980	.....
Diesel and gas oil	72,368	10,338	.....	.....	163,501	.....
Gasoline	129,039	18,434	.....	.....	129,039	188,644
Kerosene	.....	.....	.....	.....	.....	59,885
Lubricants	37,621	5,374	.....	.....	37,621	.....
Foreign exports—						
Crude oil	87,980	12,569	185,768	26,538	425,345	1,128,544
Fuel oil	347,583	49,655	269,735	38,534	742,659	275,873
Diesel and gas oil	163,288	23,327	101,213	14,459	365,071	285,644
Gasoline	124,569	17,796	247,098	35,300	463,973	251,100
Kerosene	15,259	2,180	75,080	10,726	90,339	122,026
Coastwise-domestic—						
Crude oil	77,180	11,026	145,312	20,759	529,053	524,313
Fuel oil	216,083	30,869	122,524	17,503	487,144	1,025,975
Diesel and gas oil	116,531	16,647	31,853	4,550	178,500	121,456
Gasoline	231,343	33,049	274,353	39,193	656,910	991,196
Kerosene	9,942	1,420	.....	.....	9,942	18,077

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—None.						
Foreign exports—						
Crude oil	139,553	19,936	.....	.....	139,553	245,949
Fuel oil	16,692	2,385	.....	.....	16,692	26,031
Diesel and gas oil	3,986	569	.....	.....	3,986	98,893
Gasoline	50,507	7,215	.....	.....	50,507	66,122
Kerosene	16,003	2,286	.....	.....	16,003	39,946
Lubricants	948	135	.....	.....	948	.....
Coastwise-domestic—						
Fuel oil	177,611	25,373	216,794	30,971	579,528	450,435
Diesel and gas oil	16,908	2,415	55,963	7,995	102,396	115,932
Gasoline	201,586	28,798	278,316	39,759	649,162	570,268
Kerosene	18,725	2,675	33,174	4,739	78,093	59,558

TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS

Fuel oil	.....	.....	.....	.....	61,980	.....
Diesel and gas oil	72,368	10,338	.....	.....	163,501	.....
Gasoline	129,039	18,434	.....	.....	129,039	188,644
Kerosene	.....	.....	.....	.....	.....	59,885
Lubricants	37,621	5,374	.....	.....	37,621	.....
Foreign exports—			185,768	26,538	564,898	1,374,493
Crude oil	227,533	32,505				
Fuel oil	364,275	52,039	269,735	38,534	759,351	301,904
Diesel and gas oil	167,274	23,896	101,213	14,459	369,057	384,537
Gasoline	175,076	25,011	247,098	35,300	514,480	317,222
Kerosene	31,262	4,466	75,080	10,726	106,342	161,972
Lubricants	948	135	.....	.....	948	.....
Coastwise-domestic—			145,312	20,759	529,053	524,313
Crude oil	77,180	11,026				
Fuel oil	393,694	56,242	339,318	48,474	1,066,672	1,476,410
Diesel and gas oil	133,439	19,063	87,816	12,545	280,896	237,388
Gasoline	432,929	61,847	552,669	78,953	1,306,072	1,561,464
Kerosene	28,667	4,095	33,174	4,739	88,035	77,635



Douglas-Stratton Oil Co. is believed to have found a new productive area south of the Orcutt field, Santa Barbara County, and north of a small well completed by the E. C. Arnold Corp. on the Apache property

perior Oil Co. has spudded in No. 3 fee in Section 7-20-16, and has derrick up for No. 4 fee in the same section. Superior will undoubtedly start additional drilling on the Cagle lease in the near future.

A few miles north of Superior No. 1 Cagle, Amerada Petroleum Corp. has started drilling No. 7-17 S. P. L., in Section 17-19-16, a well that will reveal considerable data on the trend of the Gatchell sand to the north and northwest. Completion of Standard No. 7-17 S. P. L. will result in the starting of several wells north of present production, which in this instance, is Superior Oil Co. No. 1 Cagle, in Section 6-20-16. Development work for the present will probably be limited by Petseahon to that portion of the field adjacent to drilling now being done by the Texas Co. and Superior Oil Co. but will eventually be extended southeastward as production contours indicate a possibility that No. 1 Ladd drilled by Petroleum Securities in Section 28-20-16, about 2 miles southeast of present production may also be found productive with deeper drilling as No. 1 Hight of Superior Oil Co. in Section 8-20-16, the most easterly well in the Southeast Coalinga field, found the Gatcheli zone productive at a much greater depth than wells completed previously.

Torrance—Harbor City

Six wells were completed in the Torrance field last week. In the Eshelman section, C. H. Lebow completed No. 1 fee flowing 686 bbls. of relatively clean 25.7-gravity oil per day from 5,168 feet, and Westside Oil Co. completed No. 1 Lomita flowing 388 bbls. of clean 25.8-gravity oil per day through a 48/64-inch bean from 5,139 feet. Standard Oil Co. No. 1-2 Marble, a former upper zone producer, was the largest completion in the lower zone last week as it came in flowing 894 bbls. of clean 25.9-gravity oil per day from 4,961 feet. General Petroleum Corp. No. 1 Poggi proved to be good for only 146 bbls. of 29.6-gravity oil, cutting 4 per cent from 5,200 feet. W. A. Kirk finished No. 5 Lomita flowing 194 bbls. of 25.7-gravity oil cutting 5 per cent from 5,095 feet. Amron Oil Co. No. 1 Lomita proved to be a distinct disappointment upon completion at 4,996 feet as it was good for only 25 bbls. of 24.6-gravity oil per day on the beam with production showing a water cut of 10 per cent. A check of development work under way shows 12 new wells either ready to be spudded in or the derricks in course of construction and rotary drilling equipment being moved in.

In the Harbor City area, south of the Lomita section of the Torrance field, Sunset Oil Co. completed No. 2-T Security, pumping 70 bbls. of 25.8-gravity oil cutting 20 per cent from 5,324 feet. Several operators heretofore interested in the Harbor City district are centering their attention now on the Lomita section of the Torrance field.

West Montebello

In the eastern end of the western extension of the Montebello field, Union Oil Co. has been making a series of formation tests in No. 1 Calkins of an interval that may be either the lower part of the sixth or the upper part of the seventh. On a formation test at 6,942-7,016 feet fluid reached the surface in 17 minutes and the well flowed for 30 minutes with a cut of 12 per cent mud and water. The recovery was 830 feet of oil and 120 feet of water. Maximum flow pressure was 1,450 pounds and maximum shut-in pressure 2,800 pounds, which indicates that this interval has an excellent kick. On a subsequent formation test at 7,110-60 feet the well showed a recovery of 4,325 feet of oil and 225 feet of fresh water. On a final test this week at 7,015-7,160 feet and open for a period of 1 hour and 36 minutes the well showed a strong blow with gas reaching the surface in 2 minutes and fluid in 40 minutes. The well then flowed oil and water with a final check indicating the maximum settled water cut to be 2.5 per cent which is below pipe line limitations of 3 per cent. The recovery was 1,400 feet of oil and 800 feet of water. The showing of No. 1 Calkins indicates that an excellent flowing well can be expected when liner is run and the well completed in the usual manner. This is the most easterly well in the western extension at the present time. The showing of No. 1 Calkins has resulted in the Texas Co. resuming drilling operations in No. 5 Mulholland which was spudded in a few months ago and then suspended pending developments.

Wood Callahan Oil Co. has staked a tentative location southeast of Union No. 1 Calkins and early work is anticipated. Oiympic Refining Co. has drilled entirely through the sixth or Masser zone in No. 1 Smith Community and has the hole bottomed in the seventh zone at 7,135 feet and will make a production test. This company has indicated that it will produce the seventh zone for a period of one week and then place a bridge above the zone and produce the sixth or Masser zone, which is the lowest member of the sixth zone. McVicar & Rood completed No. 3 Manz flowing 746 bbls. of 37.1-gravity oil through a 1-inch bean from 6,682 feet. In addition to Union Oil Co. No. 1 Calkins and Olympic Refining Co. No. 1 Smith Community there are eight drilling wells scheduled for completion within a month.

Rosecrans

The Rosecrans field is still the hot spot of Los Angeles Basin due to successful extension work of Superior Oil Co., Hydrogenation Products, Inc., Royalty Service Corp., and Universal Consolidated Oil Co. in the deep O'Dea zone. Hydrocarbon Products, Inc., completed No. 1 Duchess flowing 490 bbls. of very clean 32.8-gravity oil per day through a 36/64-inch bean from the O'Dea zone with bottom of the hole at 7,815 feet. Royalty Service Corp. completed No. 3 Gordon flowing 825 bbls. of very clean 31.6-gravity oil from 7,835 feet. This well was brought in flowing through a 12/64-inch bean behind which it showed a tubing pressure of 350 pounds and a casing pressure of 800 pounds. Superior Oil Co., which carried No. 12 Maxwell down to 8,852 feet in search of deeper production, has plugged the hole back to 7,696 feet and landed 118 feet of 6⅝-inch liner including 64 feet of perforated preparatory to making a production test in the O'Dea zone. This well showed a potentiality of 1,100 bbls. per day on a preliminary production test when the well drilled through the O'Dea zone. Barnsdall Oil Co. is starting a well on the Rosecrans lease and has just completed the rig for No. 12 near Rosecrans Avenue and Main Street.

Los Angeles Basin

Southwest Exploration Co., which is developing state tidelands in the Huntington Beach district, completed its sixth producing well and initial production has been increasing with each completion. The company's No. 6 State was finished pumping 291 bbls. of clean 25.2-gravity oil per day from 4,205 feet. Production shows a cut of less than 1 per cent. The five points section of the Huntington Beach field after a dormancy of several years is becoming active again and this week rigs were started for three wells near Ellis Avenue and Huntington Beach Boulevard, and it is the general expectation that new wells drilled in that area should be good for about 250 bbls. per day from approximately 4,000 feet.

Continental Oil Co., in the Seal Beach field, has staked location for No. 41 Bixby which will be drilled to the Wasem zone in Section 11-5-12.

The Wilmington field was devoid of any completions in the past week due to restricted development. Drilling operations in the Wilmington area are again on the upswing due to the starting of new wells by Signal Oil & Gas Co., which was awarded a contract several months ago to prosecute tideland development in the vicinity of ship channels Nos. 2 and 3. Drilling will be further increased when the Long Beach Harbor Commission awards the contract to proceed with development of tidelands not yet leased. Union Pacific Railroad Co. has staked locations for eight additional wells to be drilled in the Wilmington field but is not expected to enlarge its development program which at present consists of three strings.

San Joaquin Basin

Tide Water Associated Oil Co. completed two relatively small wells in the San Joaquin Valley, one at North Beiridge and one in the Lost Hills field. In the former district the company's No. 22, in Section 21-27-20, was brought in flowing 180 bbls. of 29.8-gravity oil cutting 5 per cent on gas lift from the Wagonwheel zone with bottom of the hole at 8,610 feet.

In the Lost Hills field, Tide Water Associated Oil Co. completed No. 11-R Williamson in Section 2-26-20, pumping 70 bbls. of 13.9-gravity oil cutting 4 per cent from 1,588 feet.

In the West Coalinga field, General Petroleum Corp. has completed No. 102 Esperanza pumping 50 bbls. of 15.8-gravity oil cutting 18 per cent, from 1,-301 feet.

Honolulu Oil Corp. is rigging up rotary for No. 5-A in Section 14-32-24, in the Buena Vista Hills section, of the Midway-Sunset field of Kern County. In the Rio Bravo field, Union Oil Co. has recompleted No. 7-34 Kern County Land in Section 34-28-25, flowing 430 bbls. of 33.5-gravity oil through a 7/64-inch bean.

Wildcat Drilling

Union Oil Co. will soon undertake the drilling of a wildcat in conjunction with Seaboard Oil Co. and Tide Water Associated Oil Co., about 4 miles northwest of Shafter in Kern County, on acreage leased from Kern County Land Co., in Section 36-27-24. This location is about 1½ miles southeast of a wildcat drilled by Continental Oil Co. and Seaboard Oil Co. in Section 26-27-24, and abandoned as dry at 13,057 feet, when the Rio Bravo zone logged at 12,665 feet, was found barren. The new wildcat is on the Wasco-Rio Bravo seismograph-determined structural trend. In the McClung district of Kern County, Superior Oil Co. was drilling at 13,316 feet. This test cored a promising oil sand at 11,126-79 feet and may prove productive from this interval if a lower zone is not found.

In the Tejon-Grapevine section, in the extreme southern end of San Joaquin basin, Tide Water Associated Oil Co. has reached a depth of 7,004 feet but has not found the pay. Petrol Corp. has resumed drilling on No. 33-5 Reserve, in Section 33-11-19, which was suspended a few months ago when the bit hit basalt. A subsequent survey indicated that this basalt may be an intrusion instead of the basement and work was resumed. This wildcat is down 7,155 feet.

In the Wheeler Ridge field, Richfield Oil Corp. has returned No. 1 Kern County Land in Section 38-11-20 to production pumping 278 bbls. of 37.5-gravity oil cutting 18 per cent from 8,765 feet. Water has been located at the top of the plug which brought the bottom back up to 8,765 feet from 9,272 feet.

West Texas Fields

(Continued from Page 66)

bbls.; No. 210 Walton, 3,171-3,265 feet, 276 bbls.; No. 211 Walton, 3,155-3,275 feet, 260 bbls. Sid W. Richardson No. 1 Keystone Cattle Co., 3,381-3,492 feet, 174 bbls. Standard Oil Co. of Texas No. 1 W. E. Baird, 3,305-72 feet, 230 bbls.

Yoakum County

Honolulu Oil Co. No. 9-677 R. Bennett, 5,070-5,260 feet, 984 bbls. Shell Petroleum Corp. No. 1 C. A. Hudson, abandoned location. Texas Pacific Coal & Oil Co. No. 15 R. Bennett, 5,114-5,260 feet, 452 bbls.; No. 17 R. Bennett, 5,080-5,245 feet, 2,244 bbls.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour production)

Brown County

Mitcham Brothers No. 4 Newton, 1,209-21 feet, 50 bbls. Ed. Selvidge No. 2-A fee, junked hole at 1,260 feet. Wes-Tex Oil No. 1 Honea, 1,379-1,537 feet, 800,-000 cu. ft. of gas.

Callahan County

Warren & Kleiner No. 2 Williams, dry and abandoned at 810 feet.

Jones County

D. H. Bolin No. 1 Morrison, dry and abandoned at 2,590 feet. Hedrick Oil Co. No. 1 Morrison, 2,148-52 feet, 164 bbls.

Shackelford County

Groover-Rose & Iron Mountain Oil Co. No. 1 Davis, dry and abandoned at 1,849 feet. Hart No. 1 Saunders, dry and abandoned at 528 feet.

PANHANDLE FIELD COMPLETIONS

(24-hour tests)

Carson County

McGill and others No. 6-B Cooper B, 3,089-3,153 feet, 510 bbls.

Gray County

King Oil Co. No. 4 Baer A, 3,240-79 feet, 463 bbls. Magnolia Petroleum Co. No. 25 fee (227), 2,896-2,946 feet, 351 bbls. S. & M. Oil Co. No. 5 Worley, 3,105-95 feet, 641 bbls.

Hutchinson County

Gibson Oil Corp. No. 1 Harvey, 2,969-3,016 feet, 554 bbls. Gulf Oil Corp. No. 88 Dial, 2,960-3,100 feet, 285 bbls. Phillips Petroleum Co. No. 37 Cockrell Ranch, 2,999-3,068 feet, 353 bbls.; No. 2 B. Dave, dry and abandoned at 2,942 feet (old well drilling deeper). Stanolind Oil & Gas Co. No. 20 Watkins, 2,941-3,006 feet, 464 bbls. Travelers Oil Co. No. 7 Galle, 3,012-78 feet, 844 bbls.

Southwest Texas Fields

(Continued from Page 76)

Fuel Supply Co. No. 3 Nueces Land & Livestock Co., sand 1,206-15 feet, 110 bbls. oil, 8 bbls. salt water, pumping.

Nueces County

Clara Driscoll field: O. W. Killam No. 12 Ellick, 5,441 feet, abandoned. South Clara Driscoll field: Wellington Oil Co. No. 4 Dugger, perforated casing 5,276-85 feet, 267 bbls., three-sixteenths inch choke.

Refugio County

La Rosa field: Shields Oil Co. and others No. 2 Sasse, perforated casing 6,329-37 feet, 168 bbls., eighth-inch choke. Tomoconnor field: Quintana Petroleum Co. No. 25 Heard, perforated casing 5,822-30 feet, 1,463 bbls., three-eighths inch choke. Quintana Petroleum Co. No. 77-A O'Connor, sand 5,898-5,921 feet, 683 bbls., quarter-inch choke.

San Patricio County

Plymouth field: Plymouth Oil Co. No. 105-C Welder, perforated casing 5,613-16½ feet, 6 bbls. per hour, eighth-inch choke.

Victoria County

Keeran field: Gulf Oil Corp. No. 14 Keeran, perforated casing 4,801-06 feet, gas well. McFaddin field: Barnsdall Oil Co. No. 16 McFaddin, sand 4,391-4,406 feet, 86 bbls., 15 hours, 9/64-inch choke.

Webb County

North Killam field: Taylor Refining Co. No. 2 Guerra, perforated casing 2,035-40 feet, 30 bbls., pumping.

Zapata County

Comitas field: Nordan & Norris No. 2-C Haynes, sand 1,175-97 feet, 41 bbls., pumping.

Oklahoma Fields

(Continued from Page 80)

found Prue sand at 2,034 feet, total depth 2,083 feet, and swabbed 35 bbls. of oil in 24 hours.

Wagoner County

J. T. Walker No. 1-A Childers, NE SW SW NW Section 23-17-16, Wagoner County, was dry and abandoned at 912 feet, total depth.

Caddo County

Phillips Petroleum Co. No. 1 Alery, NE SE NE Section 34-6-10w, Cement field, Caddo County, had sand at 3,330-50 feet, was bottomed at 3,354 feet, and flowed 25 bbls. of oil daily, with 1,000,000 cu. ft. of gas.

Ray Stephens, Inc., No. 1-A Griffen, C S half SW SE NE Section 27-6-10w, old well bottomed at 6,880 feet, plugged back to 5,000 feet, perforated casing at 3,475-90 feet and 3,880-3,901 feet, and produced 4,000,000 cu. ft. of gas daily.

Same operator's No. 2 Farwell, SE SE SW Section 27-6-10w, was building derrick.

Southwestern Counties

T. H. McCasland No. 1-A Woods, NE SE NE Section 17-3n-5w, Knox field, Grady County, found sand at 2,559-2,610 feet, at 2,625-60 feet and at 2,738-56 feet, total depth. It flowed 175 bbls. of oil in 24 hours.

Densmore & Stiper No. 1 Myers, SW cor. Section 31-2n-10w, Lawton district, Comanche County, was abandoned at 1,112 feet, total depth, in sandy lime.

Wagner & Stegner No. 2 McGee, NE NE SE Section 25-8-22w, Beckham County, had sand at 961-85 feet, total depth 990 feet, and produced 6,000,000 cu. ft. of gas daily.

New Operations

English Drilling Co. No. 1 Rice, C NE NE Section 3-10-2w, wildcat in Cleveland County, was drilling below 960 feet. It is north of the Moore pool and southwest of the Oklahoma City field.

T. Shelton and others No. 1 Gilmore, C N half NE SE Section 7-5-9, wildcat in Hughes County and northeast of the Allen field, was rigging up.

Kitchell & Shelton No. 1 Lucas, NE NE SW Section 13-9-9, Hughes County, was a location.

O. P. Buchanan No. 1 Thelma, NE SE SE Section 6-1s-19w, Tipton area, and same operator's No. 1-A Gainer, SW SW NW Section 10-1n-20w, Altus pool, Jackson County, were locations. C. W. Cole No. 1-A fee, SW SE SE Section 34-2n-20w, Altus pool, was rigging up rotary.

Illinois Fields

(Continued from Page 57)

feet; showing of gas at 1,940-45 feet; 8-inch casing set at 1,940 feet. Coates and others No. 1 Green, SW cor. Section 16-9s-9e, shut down at 1,800 feet.

CENTRAL OHIO

LIMA, Ohio, Jan. 30.—Robinson & Bucy got the best oil well of the week in Ohio when their No. 1 Ray Carl, NW quarter Section 22, Perry Township, Coshocton County, was completed in the Clinton sand at 3,087-92 feet. It produced 30 bbls. the first 24 hours after the shot. It is a wildcat, as its location is 2½ miles southeast and 2 miles north of the other production.

In Athens County, Canaan Township, Leonard Wal-

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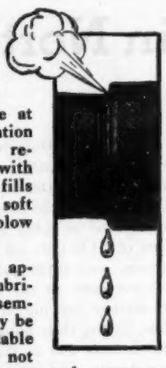

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Although operating pressure will not normally exceed 100 lbs., the Molox Ball & Socket Pipe line was designed to carry 250 lbs. For literature on this Cast Iron Pipe which permits extreme deflection while carrying liquids or gas at high pressure, address Acipco office nearest you.

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lace No. 1 B. K. Morris, Section 8, had an open flow of 170,000 cu. ft. of gas from the Stray sand at 560-66 feet. In Lodi Township, Williams Brothers No. 1 E. B. Lovett, Section 6, was good for 125,000 cu. ft. of gas on open flow from the second Berea sand at 1,693-1,708 feet.

In Belmont County, Somerset Township, Patterson & Clymer No. 1 George Ackerman, Section 2, was dry at 1,345 feet.

In Guernsey County, Millwood Township, Barnesville Development Co. No. 2 J. E. Doudna, Section 8, had 875,000 cu. ft. of gas on open flow from the Keener sand at 800 feet.

In Licking County, Fallsbury Township, Emerald Petroleum Co. No. 2 Eli Fry, Section 9, was dry at 2,994 feet. In Mary Ann Township, St. Athens Drilling Co. No. 2 P. O. Wright, Lot 9, fourth quarter, produced 10 bbls. of oil the first 24 hours after shot from the Berea at 766-80 feet. In Mary Ann Township, Settles Oil Co. No. 1 J. R. Livingston, Lot 10, fourth quarter, made 5 bbls. of oil the first 24 hours after shot from the Berea sand at 807-18 feet.

In Monroe County, Benton Township, Jim Run Oil & Gas Co. No. 1 John Tuel, Section 5, was dry in the Berea sand at 2,303 feet, plugged back to the Injun sand at 1,886 feet and completed as a gas well.

In Noble County, Beaver Township, Barnesville Development Co. No. 1 William Gibson, Section 11, is a small Berea sand gas well.

In Perry County, Monroe Township, Ohio Fuel Gas Co. No. 6 Jones Coal Co., Section 29, made 650,000 cu. ft. of gas from the Clinton sand at 3,736-53 feet.

In Washington County, Newport Township, Harry Binegar No. 1 Michael Burkhart, Section 34, was dry in the Berea at 1,727 feet.

Lima Field

In Seneca County, Clinton Township, Section 7, Sun Oil Co. abandoned their No. 2 Mary E. Crum test in the St. Peter formation at 2,221 feet.

In Wood County, Portage Township, the Goodwill Oil & Gas Co. has resumed drilling on the Lester Shinew test in Section 5. They are now drilling at 620 feet in the Trenton.

New Oil and Gas Map Of New Mexico

A new up-to-date oil and gas map of the State of New Mexico has just been offered by Zingery Oil Map Co., Fair Building, Fort Worth, Tex. The map shows townships, ranges, counties, county seat with elevation, railroads, principal highways, rivers, main geological features and all oil and gas fields as of January 1, 1939. The 42- by 48-inch map on paper is priced at $5, on cloth at $7.50. It is also available in a 30- by 30-inch size for $1.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Jan. 28.—In the northwest extension of North Turner Valley, Home Oil Co. No. 2 Millarville, LSD 6, Section 33-20-3w5, finished in the black lime at 8,495 feet with a natural flow of 1,179 bbls. on a 24-hour test, was treated with 3,180 gallons of acid, without pressure, in the lower porous zone. It started flowing through tubing 183 bbls. in the first hour, with 151 bbls. in the second, 140 in the third and 113 in the fourth. A 12-hour test gave 1,170 bbls., or around 3,400 bbls. a day, making it the largest producer in the field. Gas flow before acidizing was at the rate of 3,800,000 cu. ft. a day and bottom-hole pressure 3,055 pounds at 8,500 feet, compared with a previous high for Royalite Oil Co. No. 31 of 2,100 pounds. Pressure at 6,375 feet was 2,385 pounds. The crude is around 40 gravity. There is additional potential production from the upper porous zone, estimated around 600 bbls. a day, which may also be acidized. Gas oil ratio varied from 850 to 1,220 feet.

Home Oil Co. is planning to start two new tests on its 10,000-acre holdings in North Turner Valley, and several tests will likely be started early this spring by other interests.

Southwest Extension

In the southwest extension of South Turner Valley, D. & D. Oils No. 1, LSD 12, Section 9-18-2w5, finished at 7,400 feet, over 515 feet in the Madison, and is testing production. The lower porous horizon was encountered around 7,209 feet, and drilling continued to the black lime. Drill pipe tests of the upper porous zone at 7,129 feet were only partially successful, the well flowing intermittently for 20 minutes at a time.

Location is about 18 miles southeast of Home No. 2 Millarville, and about a half mile southwest of the most southerly producer, National Petroleum Corp. No. 2, in LSD 14, Section 9-18-2w5. National No. 2 got a fair production in the upper lime, encountered at 7,084 feet, but reentered the Blairmore at 7,660 feet without reaching the lower porous zone. D. & D. No. 1 encountered no indication of this faulting, and thus proves satisfactory structure southwest of the fault and south of the Highwood River. The test was financed on a royalty basis with Calgary & Edmonton Corp., British American Oil Co., Brown Oil Corp., Securities Assets, Ltd., Marine Petroleums, Calmont Oils and other interests sharing the venture; and Newell & Chandler handling the drilling.

If satisfactory production is secured, National Petroleum No. 2 may be deepened, and work resumed on a number of unfinished tests in the far south. Baroils No. 1, LSD 3, Section 9-18-2w5, sponsored by the Brown interests, has been standing at 63 feet. Farther south, in Section 5-18-2w5, P. & H. Development Co. No. 1, LSD 7, is standing at 185 feet; and Theo Grewer No. 1, LSD 14, at around 150 feet. Marine Petroleums No. 1, LSD 11, Section 9-18-2w5, immediately east of D. & D. No. 1, was abandoned last year at 1,330 feet, but may be resumed or a new test started.

West Flank Producers

In Section 17-18-2w5, South Turner Valley, Extension Royalties No. 1, LSD 14, finished at 7,843 feet, with natural flow of 782 bbls. a day, was acidized twice with a total of 16,000 gallons, and tested 2,256 bbls. through 2-inch choke on a 24-hour run, with gas-oil ratio around 1,200 feet. It has been given a temporary allowable of 373 bbls.

Anglo-Canadian Oil Co. No. 3, LSD 10, same section, finished in the black lime at 7,738 feet, 468 feet in the Madison, and is testing production. The upper porous zone was previously tested through the drill pipe, but results have not been made public. It started flowing by heads from the lower horizon, with indications of a fair producer, and will probably be acidized.

Okalta Deep Test

West of the proven field, Okalta Oil Co. No. 6, LSD 3, Section 30-18-2w5, has resumed swabbing from the upper lime, after replacing defective packer. At times it shows about one-third water with the oil, with pure oil showing for considerable periods. The water is believed still coming from the lower lime, and about 25 feet of cement will be added to the plug for a complete shut-off. As soon as the water situation is cleared up, the well, plugged back to around 10,000 feet, will be acidized in the upper lime.

West Side Drilling

In Section 7-19-2w5, West Central Turner Valley, Valley Drilling Co. No. 1, LSD 11, has derrick up. Valley No. 2, LSD 14, has been spotted. In Section 5-19-2w5, Calwin Royalties No. 1, LSD 15, is below 1,546 feet. Royalite Oil Co. No. 37, LSD 11, is below 7,029 feet and getting close to the Madison. Winalta Royalties No. 1, LSD 1, is below 669 feet. In Section 6-19-2w5, East Crest Oil Co. No. 4, LSD 8, is in the Benton formation below 5,106 feet.

In Section 32-18-2w5, George Harris and associates No. 2, LSD 15, is below 1,409 feet after setting 13⅜-inch casing. Oil Ventures No. 1, LSD 14, is below 1,519 feet. Royalite Oil Co. No. 36, LSD 13-14, is below 7,432 feet and getting close to the lime. British Colonial Oils No. 1, LSD 5, which is being completed by the Valley Drilling Co. is below 3,512 feet. Vantage Oils No. 1, S half LSD 12, is resuming from 175 feet. West Turner Petroleums No. 4, LSD 3, is rigging.

In Section 20-18-2w5, York Oils No. 2, LSD 6, is below 4,558 feet.

In Section 17-18-2w5, Anglo-Canadian Oil Co. No. 4, LSD 6, is below 422 feet.

In Section 9-18-2w5, George Harris and associates No. 1, LSD 13, is in the Benton formation below 1,130 feet after setting 10-inch casing.

Western Extension

West of the proven field, Anglo-Canadian Oil Co. No. 5, LSD 8, Section 31-18-2w5, is below 2,702 feet, after setting surface pipe. Scottish Petroleums No. 1, LSD 16, Section 19-18-2w5, is in the Benton formation below 4,729 feet. Royalite Oil Co. No. 38, LSD 16, Section 8-18-2w5, is in the Benton formation below 4,205 feet.

North Turner Valley

In North Turner Valley, Royalite Oil Co. No. 35, LSD 7, Section 27-20-3w5, is sidetracking below 5,637 feet after cementing back from 7,266 feet.

Shareholders of West Turner Petroleums, Ltd., have approved amalgamation with British Pacific Oils, Ltd., with organization of a new company whose holdings will include 560 acres north and west of the West Turner producers in Section 32-18-2w5 and 240 acres south and east of Okalta No. 6. The new company will extend operations down the west flank from the present producers.

Conservation Measures

Under a government order-in-council, regulations for the drilling and production operations of oil and gas wells have been placed under the immediate jurisdiction of the Alberta Oil and Gas Conservation Board. Previously, drilling was under supervision of the Lands and Mines Department while the Conservation Board had charge of production. The change is designed to centralize control of the industry under the one jurisdiction.

New quotas for gas and crude production are anticipated shortly from the board. Including Extension Royalties No. 1, recently completed, total allowables are now 14,675 bbls. a day, which will be materially increased by Home No. 2. A reduction may be made till larger markets open in the spring. The aggregate gas flow of 108,000,000 cu. ft. a month, scheduled to expire on January 15, has been temporarily continued.

East Side Drilling

On the Twin dome structure northeast of Turner Valley, Anglo-Canadian Oil Co. No. 1, LSD 7, Section 6-21-28w4, is below 3,877 feet.

On the Calling Valley structure, McLeod Oil Co. No. 1, LSD 4, Section 6-21-2w5, is arranging to resume from 8,450 feet. Crude, about 34 gravity, encountered in the cardium sandstone at 6,657 feet, is standing between 1,800 and 2,000 feet in the hole, which will be deepened. A potential structure 16 miles long and 2 to 3 miles wide has been defined in this area.

Southern Foothills

On the Highwood-Sinclair structure, southwest of Turner Valley, Green Valley Oils No. 1 Banner, LSD 6, Section 34-17-3w5, is below 6,688 feet, more than 1,328 feet in the Madison limestone.

On the Savannah Creek structure, Anglo-Canadian Oil Co. No. 1, SW Section 20-14-4w5, diamond drill test, is below 62 feet.

In the Pincher Creek area, Anglo-Canadian No. 1 Castle River, LSD 4, Section 11-6-1w5, is below 4,600 feet and expected to finish around 7,100 feet.

Northern Foothills

On the Brazeau structure, in the northern foothills west of Edmonton, Home Oil Co. No. 1, LSD 16, Section 7-43-17w5, is cleaning and carrying 10-inch casing below 4,010 feet. A second well will be drilled on this structure by the Home Oil Co.

On the Ram River structure, west of Rocky Mountain House, Ram River Oils No. 1 Township 38-12w5, diamond drill test, is below 710 feet, with 640 feet in the Devonian limestone. Surface casing was set around 650 feet. Officers of the company elected at the annual meeting were: president and managing director, I. B. Howatt; vice president, A. Cyril Perry; secretary, F. D. Perry, all of Edmonton;

(Continued on Page 91)

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.T.R.	Depth	Status
Richfield Oil, No. 1 Tinaquaic, Foxen Can., S. Barbara	36- 9-32	3,770	sd. sh. drlg.
Barnsdall Oil, No. 5 Magenheimer, Gato Ridge, S. B.	9- 8-32	3,035	redrlg. 1,993
United West. Oil, No. 1 Los Olivos, Santa Barbara	16- 7-30	3,270	redrlg. 3,230
Litho Oil, No. 1 R. I. E., Capitan, Santa Barbara	5- 4-30	363	sd. sh. drlg.
T.-O. Oil, No. 2 Mdivani, S. B. Mesa, Santa Barbara	28- 4-27	1,500	flow. 125 b.d.
Garvin & Seaman, No. 1 Gauthier, Summerland, S. B.	22- 4-26	1,458	sd. sh. drlg.
Levesque, G. M., No. 1 Robertson, Ojai, Ventura Co.	17- 2-18	1,271	rd. sh. drlg.
Claran Oil, No. 1 Hardison, Sespe, Ventura	22- 4-20	2,915	sd. sh. drlg.
Merchants Pet., No. 8 Hillside, Sespe, Ventura	1- 4-20	1,612	O.S. drlg.
Ivers, H. A., No. 14 Kentuck, Sespe, Ventura	1- 4-20	760	sd. sh. drlg.
Speik Oil, No. 2 Speik, Sespe, Ventura	33- 5-19	3,635	pump. 70 b.d.
Section 20 Oil, No. 1, Sespe, Ventura	20- 5-19	2,476	sd. sh. drlg.
Texas Co., No. 136 Shiells, Shiells Canyon, Ventura	4- 3-19	3,070	P.B. 2,955
El Rancho Oil, No. 2 Elkins, Shiells Canyon, Ventura	9- 3-19	1,350	sd. sh. drlg.
Continental Oil, No. 10 Grubb, San Miguelito, Ventura	24- 3-24	5,686	O.S. drlg.
C. C. M. Oil, No. 24-B Hobson, Rincon, Ventura	16- 3-24	2,541	sd. sh. drlg.
Tide Water A., No. 36 V.L.W., Ventura Ave., Ventura	25- 3-23	9,316	flow. 850 b.d.
Tide Water A., No. 40 V.L.W., Ventura Ave., Ventura	25- 3-23	6,898	hd. sd. drlg.
Tide Water A., No. 14 McGonigle, Ventura Ave., Ven.	23- 3-23	2,293	sd. sh. drlg.
Tide Water A., No. 123 Lloyd, Ventura Ave., Ventura	27- 3-23	5,570	cmtd. 4,695
Tide Water A., No. 128 Lloyd, Ventura Ave., Ventura	27- 3-23	9,248	sd. sh. drlg.
Tide Water A., No. 134 Lloyd, Ventura Ave., Ventura	27- 3-23	8,339	redrlg. 6,752
Tide Water A., No. 8 Hartman, Ventura Ave., Ventura	22- 3-23	4,292	sd. sh. drlg.
Shell Oil, No. 98 Taylor, Ventura Ave., Ventura	21- 3-23	2,292	sd. sh. drlg.
Shell Oil, No. 33 Edison, Ventura Ave., Ventura	28- 3-23	4,140	sd. sh. drlg.
Brit. Amer. Oil, No. 7 Bolsa, Ventura Ave., Ventura	22- 3-23	6,770	redrlg. 5,170
Alliance Pet., No. 3 Hisey, Ventura Ave., Ventura	21- 3-23	2,432	sd. sh. drlg.
Lloyd Corp., No. 2 Dabney, Ventura Ave., Ventura	23- 3-23	7,303	cleaning out
Cal. Expl., No. 2 Occidental, Lost Hills, Kern	24-26-20	2,300	cmtd. 2,300
Tide Water A., No. 11-R Williamson, Lost Hills, Kern	2-26-20	1,588	pump. 65 b.d.
Belridge Oil, No. 35-26-A, North Belridge, Kern	35-27-20	7,281	br. sh. drlg.
Belridge Oil, No. 26-25, North Belridge, Kern	26-27-20	8,500	O.S. drlg.
Belridge Oil, No. 26-39, North Belridge, Kern	26-27-20	4,284	br. sh. drlg.
Belridge Oil, No. 28-2, North Belridge, Kern	28-27-20	7,281	br. sh. drlg.
Tide Water A., No. 23-3, North Belridge, Kern	22-27-20	5,350	sd. sh. drlg.
Tide Water A., No. 22-21, North Belridge, Kern	21-27-20	8,612	flow. 175 b.d.
Richfield Oil, No. 3, North Belridge, Kern	22-27-20	4,991	sd. sh. drlg.
Amerada Pet., No. 6 Beer, Blackwells Corner, Kern	21-26-19	2,860	br. sh. drlg.
Emigrant Oil, No. 1 Den, Devil's Den, Kern	24-25-18	4,104	bailed dry
Herzog, R. D., No. 1 Den, Devil's Den, Kern	27-25-18	309	sd. sh. drlg.
Shell Oil, No. 21 Freeman, Round Mountain, Kern	20-28-29	1,915	sd. sh. drlg.
Fuhrman, Alfred, No. 11-A Kern, Kern River, Kern	28-28-28	613	O.S. drlg.
Santoire, A., No. 1 A.H.S., Kern River, Kern	19-28-28	233	sd. sh. drlg.
Superior Oil, No. 1 Clerico, Magunden, Kern	26-29-28	2,472	sd. sh. drlg.
Richfield Oil, No. 1, Union Avenue, Kern	5-30-28	8,890	sd. sh. drlg.
Wood-Callahan Oil, No. 4 Community, Edison, Kern	21-30-29	4,244	dry; abd.
O'Reily, F., No. 1 Berree, Edison, Kern	5-30-29	2,586	cleaning out
Texas Co., No. 35-1 KCL, Fruitvale, Kern	35-28-26	4,798	sd. sh. drlg.
West, Gulf Oil, No. 41-B, KCL, Fruitvale, Kern	22-29-27	4,087	fault; abd.
Pacific Southwest Oil, No. 1 Dillon, Fruitvale, Kern	27-29-27	1,940	sd. sh. drlg.
Renner, G. E., No. 2 R.H.L., Sivert, Kern	27-30-30	2,600	cleaning out
Hillview Oil, No. 1 Tejon, Caliente Creek, Kern	11-30-30	2,102	hd. sd. drlg.
Continental Oil, No. 4-A KCL, Wasco, Kern	8-27-24	9,770	sd. sh. drlg.
Standard Oil, No. 2 Mushrush, Wasco, Kern	7-27-24	9,254	sd. sh. drlg.
Standard Oil, No. 8-2-B, KCL, Wasco, Kern	17-27-24	3,593	sd. sh. drlg.
Cal. Lands, Inc., No. 1 Salisbury, Buttonwillow, Kern	7-29-24	11,373	sd. sh. drlg.
Union Oil, No. 7-34, KCL, Rio Bravo, Kern	34-28-25	11,515	will P.B.
General Pet., No. 3 Van Ness, Rio Bravo, Kern	2-29-25	10,082	sd. sh. drlg.
General Pet., No. 1 Caldwell, Rio Bravo, Kern	35-28-25	4,060	sd. sh. drlg.
Standard Oil, No. 2 Fleishauer, Greeley, Kern	20-29-26	11,598	fish slips
Standard Oil, No. 11-16, KCL, Greeley, Kern	20-29-26	9,890	gr. sh. drlg.
Standard Oil, No. 11-17, KCL, Greeley, Kern	18-29-26	6,670	sd. sh. drlg.
Standard Oil, No. 12-6, KCL, Greeley, Kern	30-29-26	6,478	sd. sh. drlg.
Standard Oil, No. 1 Ross, Greeley, Kern	20-29-26	8,109	cleaning out
Standard Oil, No. 1 Elrich, Greeley, Kern	20-29-26	11,188	br. sh. drlg.
Superior Oil, No. 12, KCL, Greeley, Kern	3-30-26	11,316	gr. sd. drlg.
Shell Oil, No. 81-29-B, KCL, Ten Section, Kern	29-30-26	8,220	flow. 2,512 b.d.
Shell Oil, No. 6-30-B, KCL, Ten Section, Kern	30-30-26	2,783	sd. sh. drlg.
Shell Oil, No. 16-14-3, KCL, Canal, Kern	14-30-25	4,982	sd. sh. drlg.
Shell Oil, No. 87-4-B, KCL, Canal, Kern	4-30-25	10,970	sd. sh. drlg.
Ohio Oil, No. 10-E, KCL, Canal, Kern	14-30-25	8,485	P.B. 8,325
Standard Oil, No. 1 Rio Bravo fee, Canal, Kern	12-30-25	8,280	O.S. drlg.
Ohio Oil, No. 2-F, KCL, Coles Levee, Kern	10-31-25	7,291	sd. sh. drlg.
Wilbent Oil, No. 2 Royer, Midway-Sunset, Kern	7-11-23	4,443	salt water
Fried, Julius, No. 1 Fried, Midway-Sunset, Kern	34-32-24	5,035	cleaning out
Texas Co., No. 32 Midway, Midway-Sunset, Kern	32-32-24	3,223	dry; abd.
National Oil, No. 32 Midway, Midway-Sunset, Kern	35-32-23	581	sd. sh. drlg.
Standard Oil, No. 7-30 Western, McKittrick, Kern	7-30-22	2,115	O.S. drlg.
Standard Oil, No. 7-31 Western, McKittrick, Kern	7-30-22	2,050	idle
Westco Pet., No. 1 West, McKittrick, Kern	34-30-22	5,846	D.P. froze
Hall-Baker Co., No. 1 Williams, McKittrick, Kern	2-30-21	1,750	sd. sh. drlg.
Richfield Oil, No. 1, KCL, Wheeler Ridge, Kern	28-11-20	8,765	pump. 270 b.d.
Tide Water A., No. 2 S.P., Tejon Ranch, Kern	15-11-19	7,005	hd. sh. drlg.
Petrol Corp., No. 33-5 Reserve, Tejon Ranch, Kern	33-11-19	7,268	resume work
Progressive Oil, No. 3, East Coalinga, Fresno	20-19-15	770	br. sh. drlg.
Foreign Oil, No. 6 Annex, West Coalinga, Fresno	6-21-15	1,055	bl. sh. drlg.
General Pet., No. 102 Esperanza, W. Coalinga, Fresno	6-20-15	1,301	pump. 25 b.d.
General Pet., No. 103 Esperanza, W. Coalinga, Fresno	6-20-15	1,318	sd. sh. drlg.
Jarvis, L. F., No. 2 Leo, West Coalinga, Fresno	14-20-14	340	sd. sh. drlg.
Amerada Pet., No. 7-17 S.P.L., North Coalinga, Fresno	17-19-16	1,055	sd. sh. drlg.
Petseahon, No. 37-7-F, Southeast Coalinga, Fresno	7-20-16	7,373	O.S. drlg.
Petseahon, No. 71-18-F, Southeast Coalinga, Fresno	18-20-16	7,574	O.S. drlg.
Standard Oil, No. 71-13-C fee, SE. Coalinga, Fresno	13-20-15	733	cmtd. 628
Standard Oil, No. 1-17-F fee, SE. Coalinga, Fresno	17-20-16	7,950	O.S. drlg.
Superior Oil, No. 1 Cagle, Southeast Coalinga, Fresno	6-20-16	7,711	flow. 3,000 b.d.
Superior Oil, No. 3 fee, Southeast Coalinga, Fresno	7-20-16	3,141	sd. sh. drlg.
Stuart Oil, No. 1 Alcalde, Alcalde, Fresno	12-21-14	1,268	idle
M. C. A. Drlg., No. 1 Adams, Kreyenhagen, Fresno	33-22-16	194	sd. sh. drlg.
Union Oil, No. 4 King, Kettleman North, Fresno	29-21-17	8,520	flow. 250 b.d.
K. N. D. A., No. 54-24-H, Kettleman North, Fresno	24-21-16	9,225	fish out
K. N. D. A., No. 6-16-Q, Kettleman North, Kings	16-22-18	8,090	gr.. sd. drlg.
K. N. D. A., No. 36-18-Q, Kettleman North, Kings	18-22-18	3,563	sd. sh. drlg.
K. N. D. A., No. 36-22-Q, Kettleman North, Kings	22-22-18	7,460	hd. sd. drlg.
K. N. D. A., No. 78-22-Q, Kettleman North, Kings	22-22-18	7,190	gr. sd. drlg.
Standard Oil, No. 46-13-H, Kettleman North, Fresno	13-21-16	11,030	P.B. 10,684
Standard Oil, No. 56-1-P, Kettleman North, Kings	1-22-17	6,770	br. sh. drlg.
Standard Oil, No. 76-7-Q, Kettleman North, Kings	7-22-18	6,581	br. sh. drlg.
Cal. Pet. Prod., No. 1 Irons, Cuyama, San Luis Obispo	19-10-24	1,830	cmtd. 1,500
Epco, Inc., No. 1 Ajax, Union, San Luis Obispo	27-26-13	4,010	gr. sd. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.T.R.	Depth	Status
Antelope Valley Oil, No. 1 Palmdale, Los Angeles	17- 6-12	1,086	sd. sh. drlg.
Mojave Pet., No. 1 Hillside, Gorman, Los Angeles	5- 8-18	510	sd. sh. drlg.
Texas Co., No. 1 Anderson, Ocean Park, Los Angeles	17- 2-15	7,285	redrlg. 5,520
Rolling Hills Pet., No. 1 Weston, Palos Verdes, L. A.	27- 4-14	5,120	sd. sh. drlg.
Bolling Oil, No. 1 Power, Torrance, Los Angeles	23- 4-14	4,482	sd. sh. drlg.
Cinco Oil, No. 1 Woodruff, Torrance, Los Angeles	23- 4-14	3,600	rigged up
Campeet Oil, No. 17-A Kleinmyer, Torrance, L. Ang.	23- 4-14	3,856	will deepen
Cuba Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	4,070	sd. sh. drlg.
H. D. Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	3,807	rigged up
Hunt. Signal Oil, No. 1 Clarke, Torrance, L. Angeles	23- 4-14	4,950	O.S. drlg.
Kirk, W. A., No. 5 Lomita, Torrance, Los Angeles	23- 4-14	5,098	flow. 170 b.d.
Kern Pet., No. 1 Neher, Torrance, Los Angeles	23- 4-14	2,283	sd. sh. drlg.
Kovell Oil, No. 1 Deep Hole, Torrance, Los Angeles	23- 4-14	4,892	O.S. drlg.
Lebow, C. H., No. 1 fee, Torrance, Los Angeles	23- 4-14	5,167	O.S. drlg.
Maldum Pet., No. 4 Lomita, Torrance, Los Angeles	23- 4-14	4,802	O.S. drlg.
McCaslin, W. E., No. 1 Lomita, Torrance, Los Angeles	23- 4-14	3,793	sd. sh. drlg.
Pacific West. Oil, No. 13 Marble, Torrance, L. Angeles	15- 4-14	3,770	redrlg. 3,570
Paso Oil, No. 1 Lyle, Torrance, Los Angeles	22- 4-14	5,128	cleaning out
Standard Oil, No. 1-2 Marble, Torrance, Los Angeles	15- 4-14	4,800	sd. sh. drlg.
Tiger Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	4,950	O.S. drlg.
Westside Oil, No. 3 Exeter, Torrance, Los Angeles	23- 4-14	5,139	sd. sh. drlg.
Wilson, Ray, No. 2 Lomita, Torrance, Los Angeles	23- 4-14	4,687	sd. sh. drlg.
West Basin Oil, No. 1 Eyster, Torrance, Los Angeles	23- 4-14	5,164	flow. 420 b.d.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulling pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg., or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shut off O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

C. C. M. O., No. 51, Torrance, Los Angeles	14-	4-14	3,725	redrlg. 3,316
C. C. M. O., No. 12 Kettler, Torrance, Los Angeles	14-	4-14	3,835	rigging up
General Pet., No. 1 Poggi, Harbor City, Los Angeles	25-	4-14	5,200	flow. 150 b.d.
Sunset Oil, No. 2 Security, Harbor City, Los Angeles	25-	4-14	5,324	pump 80 b.d.
Texas Co., No. 3 Oakley, Harbor City, Los Angeles	30-	4-13	2,149	sd. sh. drlg.
Union Oil, No. 49 Hellman, Dominguez, Los Angeles	33-	3-13	5,942	fish. D.P.
Shell Oil, No. 97 Reyes, Dominguez, Los Angeles	33-	3-13	7,790	sd. sh. drlg.
Bankline Oil, No. 2 Kirby, Rosecrans, Los Angeles	20-	3-13	3,170	sd. sh. drlg.
Union Oil, No. 28 Rosecrans, Rosecrans, Los Angeles	19-	3-13	4,758	sd. sh. drlg.
Union Oil, No. 30 Rosecrans, Rosecrans, Los Angeles	19-	3-13	7,660	flow. 640 b.d.
Universal Consd., No. 14 Trust, Rosecrans, L. Angeles	18-	3-13	7,845	P.B. 7,760
Isco Pet., No. 2 Abel, Rosecrans, Los Angeles	19-	3-13	4,782	sd. sh. drlg.
Superior Oil, No. 12 Maxwell, Rosecrans, L. Angeles	19-	3-13	8,852	P.B. 7,696
Hydrocarbon Prod., Inc., No. 1 Cole, Rosecrans, L. A.	19-	3-13	7,752	flow. 300 b.d.
Hydrocarbon Prod., No. 1 Duchess, Rosecrans, L. A.	19-	3-13	7,815	O.S. drlg.
Royalty Ser., No. 3 Gordon, Rosecrans, Los Angeles	19-	3-13	7,835	flow. 1,050 b.d.
Barnsdall Oil, No. 5 R.S.F., Newhall, Los Angeles	26-	4-17	3,850	sd. sh drlg.
Standard Oil, No. 1 Ward, Aliso Canyon, Los Angeles	27-	3-16	1,184	sd. sh. drlg.
Mojave Pet., No. 2 Jennings, Newhall, Los Angeles	33-	5-14	500	sd. sh. drlg.
Mangrum & Page, No. 1 Lintz, Newhall, Los Angeles	4-	3-15	212	sd. sh. drlg.
General Pet., No. 22 Harbor, Wilmington, L. Angeles	2-	5-13	1,981	sd. sh. drlg.
General Pet., No. 32 Harbor, Wilmington, L. Angeles	2-	5-13	2,070	sd. sh. drlg.
General Pet., No. 12 S.P., Wilmington, Los Angeles	2-	5-13	2,550	sd. sh. drlg.
Allied Pet., No. 30 Harbor, Wilmington, L. Angeles	35-	4-13	3,341	pump. 120 b.d.
F. A. Pet., No. 1 Franco, Wilmington, Los Angeles	35-	4-13	1,289	sd. sh. drlg.
McCloskey, E. F., No. 1 Padreson, Wilmington, L. A.	35-	4-13	1,530	sd. sh. drlg.
Richfield Oil, No. 31 P.D., Wilmington, Los Angeles	2-	5-13	2,895	sd. sh. drlg.
Union Pacific, No. 99, Wilmington, Los Angeles	4-	5-13	2,540	sd. sh. drlg.
Union Pacific, No. 12-E, Wilmington, Los Angeles	34-	4-13	3,236	O.S. drlg.
Union Pacific, No. 13-E, Wilmington, Los Angeles	34-	4-13	2,800	sd. sh. drlg.
Universal Consd., No. 7 Newport, Wilmington, L. A.	2-	5-13	1,994	sd. sh. drlg.
Grady, R. T., No. 1 Associates, San Pedro, L. Angeles	23-	5-14	614	cmtd. 415
Seacliff Pet., No. 1 Club, Montebello, Los Angeles	3-	2-12	715	idle
Olympic Refining, No. 1 Smith, Montebello, L. Ang.	2-	2-12	7,135	sd. sh. drlg.
St. Helens Pet., No. 30 Monterey, Montebello, L. Ang.	2-	2-12	4,972	sd. sh. drlg.
St. Helens Pet., No. 4 Mulholland, Montebello, L. Ang.	2-	2-12	3,978	sd. sh. drlg.
Standard Oil, No. 2 Braun, Montebello, Los Angeles	2-	2-12	6,610	O.S. drlg.
Standard Oil, No. 4 Braun, Montebello, Los Angeles	2-	2-12	6,730	O.S. drlg.
Standard Oil, No. 5 Braun, Montebello, Los Angeles	2-	2-12	4,983	cmtd. 732
Standard Oil, No. 2 Kaufman, Montebello, L. Angeles	2-	2-12	4,461	sd. sh. drlg.
Standard Oil, No. 4 Harvey, Montebello, Los Angeles	2-	2-12	4,980	sd. sh. drlg.
Union Oil, No. 1 Calkins, Montebello, Los Angeles	2-	2-12	7,115	O.S. drlg.
Union Oil, No. 4 Howard & Smith, Montebello, L. A.	2-	2-12	6,680	sd. sh. drlg.
Union Oil, No. 3 Wilcox, Montebello, Los Angeles	2-	2-12	4,086	sd. sh. drlg.
Union Oil, No. 30 La Merced, Montebello, Los Angeles	1-	2-12	5,350	sd. sh. drlg.
Stanley Oil, No. 1 Mont., Montebello, Los Angeles	2-	2-12	4,890	sd. sh. drlg.
Pongratz Oil, No. 1 Newmark, Montebello, L. Angeles	3-	2-12	4,982	sd. sh. drlg.
Texas Co., No. 5 Mulholland, Montebello, L. Angeles	2-	2-12	2,781	sd. sh. drlg.
McVicar & Rood, No. 3 Manz, Montebello, L. Angeles	2-	2-12	6,682	flow. 720 b.d.
Herley-Kelly, Inc., No. 2 Burke, Montebello, L. Ang.	2-	2-12	4,941	sd. sh. drlg.
H. & C. Oil, No. 1 Joyce, Whittier, Los Angeles	22-	2-11	2,761	sd. sh. drlg.
Texas Co., No. 6 Baldwin, Santa Fe Springs, L. Ang.	6-	3-11	6,739	swab. water
Texas Co., No. 1-13-A Smith, Anaheim, Orange	8-	4-10	7,510	sd. sh. drlg.
Brea Canyon Oil, No. 49 Brea, Brea Canyon, Orange	2-	3-10	4,460	sd. sh. drlg.
Shell Oil, No. 20 Orange, Brea Canyon, Orange	2-	3-10	7,984	sd. sh. drlg.
Battersby, J. M., No. 1 Associates, Carmenita, Orange	21-	3-11	8,950	C.P. 8,905
Goodrich Oil, No. 1 Paige, Richfield, Orange	22-	3-9	3,160	rig. to pump
Southwest Expl., No. 6 State, Hunt. Beach, Orange	10-	6-11	4,205	pump. 276 b.d.
Southwest Expl., No. 7 State, Hunt. Beach, Orange	3-	6-11	2,296	sd. sh. drlg.
Southwest Expl., No. 8 State, Hunt. Beach, Orange	4-	6-11	2,070	sd. sh. drlg.
Southwest Expl., No. 14 State, Hunt. Beach, Orange	10-	6-11	3,980	sd. sh. drlg.
Wilshire Oil, No. 2 H.B., Huntington Beach, Orange	10-	6-11	4,192	redrlg. 2,990
Wilshire Oil, No. 15 H.B., Huntington Beach, Orange	10-	6-11	4,559	redrlg. 2,631
Patos Drlg., No. 1 Graham, Sunset Beach, Orange	21-	5-11	1,996	sd. sh. drlg.
Shell Oil, No. 3 Irvine, Corona Del Mar, Orange	6-	7-9	1,155	sd. sh. drlg.
Dauphin Dev., No. 1 Irwin, Ponto, San Diego	16-12-4		806	fish D.P.
Palm City Oil, No. 1 Palm City, San Diego	21-18-2		181	sd. sh. drlg.
So. Count. Pet., No. 1 Serranos, San Bernardino	22-	2-8	2,831	idle

KANSAS

Week Ending January 28 (Descriptions are East unless marked otherwise)

Barton County

Amerada Pet. Co. No. 1 Kruckenberger, C NE NE Sec. 14-19-15w. Lans. 3,260 ft.; Arb. 3,572 ft.; acdz. and swb. 38 B.F.

Long & Johnson No. 1 Eveleigh, SW SW NE Sec. 3-18-14w. Lansing 3,100 ft.; Arb. 3,338 ft.; T.D. 3,367 ft.; pmp. 38 B.O. in 7 hrs.

I. W. Murfin No. 1 Birzer, NE SW Sec. 21-19-11w. S.D. 2,250 ft.

Sinclair Prairie No. 1-A Pichner, NE SE SE Sec. 10-16-11w. Arb. 3,344 ft.; R.U. S.T. 3,350 ft.

Butler County

Bowland & McCoy No. 1 Frankson, SE SW Sec. 2-29-6. Drlg. 165 ft.

Higgens & Pierce No. 1-A Shrieves, NE NW SE Sec. 2-26-4. S.D. 1,000 ft.

Cowley County

Barnsdall No. 1 Snodgrass, NW SE Sec. 36-30-6. Drlg. 2,235 ft.

Brewer & Blair No. 1 Miller, NE NW NE Sec. 13-32-5. Drlg. 2,525 ft.

Ben Gralapp et al No. 1-A Clark, NW NW NE Sec. 11-31-3e. T.D. 3,248 ft.

Phillips Pet. Co. No. 1 Bernard, SE SE NE Sec. 19-33-6. Drlg. 2,249 ft.

Dickinson County

Franks et al No. 1 Huffman, NW NW SW Sec. 11-13-1. Drlg. 1,865 ft.

Ellis County

Bridgeport No. 1 Froelich, CWL SW Sec. 34-12-16w. Drlg. 1,156 ft.

C. L. Carlock No. 1 Philip, SE SW NE Sec. 10-15-17w. Lans. 3,028 ft.; drlg. 3,467 ft.

Darby Pet. No. 1 Peavey, NW NW NE Sec. 24-11-18w. T.D. 3,456 ft.; swb. 110 B.O. in 15 hrs.

Graham County

Continental Oil Co. No. 1 Drumm Comm. Co., SE SE NE Sec. 16-9-21w. Lans. 3,390 ft.; Arb. 3,684-99 ft.; R.U.S.T. 3,-699 ft.

Continental Oil Co. No. 1 Putnam Inv. Co., CWL SW Sec. 3-9-21w. Drlg. 3,-050 ft.

Greenwood County

Hancock et al No. 1 Rousch, C S½ SE NW Sec. 8-28-13. T.D. 1,530 ft.; S.D.

H. L. Turner No. 1 Black, SE NE NW Sec. 3-27-13. H.F.W. 1,895 ft.; S.D.

Harvey County

Lanahan Drlg. Co. No. 1 Lagree, SE SE Sec. 4-23-3w. T.D. 280 ft.; S.D.

Kingman County

Duwe & Farris No. 1 Kimminau, NE NW SW Sec. 12-30-9w. Set pkr. 4,450 ft.; 100,000 cu. ft. gas; drlg. 4,602 ft.

McPherson County

Marylyn Oil No. 1 Dixon, NW NE NW Sec. 7-19-2w. T.D. 3,018 ft.; pmp. 35 B.O. in 4 hrs.

Marion County

Cox & McGinnis and Saco Oil Co. No. 1 Jolliffe, C S½ SW SE Sec. 2-22-5. Drlg. 2,670 ft.

Johnson et al No. 1-A Miltz, SW SW SW Sec. 24-17-4. T.D. 2,380 ft.; 300 ft. O. I.H.; no test.

Vickers Pet. No. 1 Sutphin, SW SE SW Sec. 30-22-4. Drlg. 1,055 ft.

Mead County

Pacific Midwest Oil No. 1 Rexford, NE SE SW Sec. 8-30-29w. S.D. 1,435 ft.

Osage County

J. M. Edwards No. 1 Detrick (O.W.D.D.), C NW SE Sec. 21-14-15. O.T.D. 1,200 ft.; S.D. 1,200 ft.

Ottawa County

Babcock Oil No. 1 Copeman, NW NW Sec. 18-10-2w. Miss. 2,835 ft.; H.F.W. 3,302-10 ft.; S.D. for csg. 3,480 ft.

Pratt County

Champlin Ref. Co. No. 1 Elliott, SW NE Sec. 26-27-14w. Fsg. 4,857 ft.

Reno County

Barnsdall Oil Co. No. 1 Krehbiel, NE NE NE Sec. 18-25-5w. Drlg. 143 ft.

Rice County

Cities Service No. 1 DeWitt, CSL NE Sec. 33-19-9w. Arb. 3,174 ft.; T.D. 3,195 ft.; 3,100 ft. O.I.H.

Frank Hollow No. 1 Hohl Est., C N½ N½ N½ Sec. 3-18-10w. Lans. 2,955 ft.; Tpk. 2,566 ft.; Arb. 3,312 ft.; W.I.H.; D.&A.

Spurrier & Bruce No. 1 Cary, NE NW NW Sec. 30-18-8w. O.W.D.D.; O.T.D. 1,530 ft.; S.D. 1,680 ft.

J. H. Tatlock No. 1 L. C. Proffitt, SW SE SW Sec. 12-20-10w. Lansing 3,025 ft.; Arb. 3,327-3,335 ft., T.D.; P. 99 B.O. in 8 hrs.; considerable wtr.

Rooks County

Phillips Pet. Co. No. 1 Tanzey, C NW SW Sec. 25-8-18w. Arb. 3,418-3,423 ft. T.D. 3,424 ft.; acd. and swb. 21 B.F

Producers No. 1 Ham (O.W.D.D.), SW SW NW Sec. 25-7-19w. O.T.D. 1,800 ft.; Lans. 3,043 ft.; S.D. 3,348 ft.

Russell County

K. F. Nelson No. 1 Polcyn, SW Sec. 31-13-15w. H.F.W. 3,389-91 ft.; T.D. 3,-393 ft.; P.B. 3,164 ft. and W.O.C.

Phil-Han No. 1 Weimeister, SW Sec. 13-14-13w. Top pay 2,655 ft.; perf. and acd. and swb. ½ B.O.P.H.; to P.B.

R. H. Shields No. 1-A Gross, CSL SW SE Sec. 5-15-13w. Lans. 2,929 ft.; S.D. 2,970 ft.

Earl Wakefield No. 1 Meharg, SE SE SE Sec. 16-15-13w. Top pay 3,099 ft.; T.D. 3,112 ft.; acdzg. and P.&F. 279 B.O. in 8 hrs.; pot. 837 B.O.P.D.; comp.

Saline County

Central States Oil Co. No. 1 Crawford, NW SW NE Sec. 26-13-3w. Drlg. 1,100 ft.

Sedgwick County

Century Pet. Co. No. 1 Wilke, SW SE SW Sec. 1-29-2. Drlg. 500 ft.

Frank Hudson et al No. 1 Fulton, NE SE Sec. 35-28-1e. S.D. 2,356 ft.

Stafford County

Stanolind O. & G. Co. No. 1 Curtis, SE cor. Sec. 31-21-12w. Viola 3,544 ft.; Arb. 3,638 ft.; R.U.S.T. 3,640 ft.

Virginia Drlg. Co. No. 1 Schlockter-meyer, SE NW Sec. 7-21-11w. Drlg. 2,675 ft.

Wabaunsee County

Scheu & Tague et al No. 1 Aye, NW SW NW Sec. 10-12-8. Drlg. 445 ft.

Woodson County

Roby et al No. 1 Meairs, SW SW NW Sec. 21-25-14. Drlg. 400 ft.

M. J. Trott No. 1 Abbott, NW NE NE Sec. 21-25-14e. Drlg. 1,325 ft.

OKLAHOMA

Week Ending January 28

NORTHERN OKLAHOMA

Caddo County

Texas Co. No. 1 Smith, C NE NW Sec. 2-5-12w. T.D. 2,556 ft.; S.D.O.

Cleveland County

Burke-Greis No. 1 Alberts, SE SW NW Sec. 19-7-1w. Hunton 6,885 ft.; drlg. 7,230 ft.

English Drlg. Co. No. 1 Rice, C NE NE Sec. 3-10-2w. Drlg. 960 ft.

Harper, Turner et al No. 1 Taylor, SE NE NW Sec. 23-8-2w. T.D. 7,079 ft.; to drill past D.P.

Nels-Burrton No. 1 Hirsch, NW NW NE Sec. 17-9-2w. O.W.P.B.; O.T.D. 7,692 ft.; T.D. 7,695 ft.; perf. 7,525-40 ft. in sd.; swbg. F., mostly wtr.

Garfield County

Champlin Ref. Co. No. 1 Allen, SE SE SE Sec. 26-24-8w. Drlg. 6,295 ft.

Hughes Drlg. Co. No. 1 Meisner, C NE NW Sec. 10-20-4w. Drlg. 5,570 ft.

Jones Assoc. No. 1 Wolfe, SE SW NW Sec. 13-22-4w. Simp. 4,451 ft.; dolo. 4,-455 ft.; Arb. 4,595 ft.; T.D. 4,626 ft.; D.&A.

Garvin County

H. R. Hollenbach et al No. 1 Butterly, NE NE SE Sec. 22-1n-1e. 3,218,000 ft. gas; drlg. 3,205 ft.; S.D.; repairs.

Grady County

Carter Oil Co. et al No. 1 Smith C-58, C SE SW Sec. 26-5-8w. S.S.O. 5,329-58 ft.; S.O. 5,433 ft.; cd. 5,964-76 ft.; rec. sh.; cd. 6,351-76 ft.; rec. hd. sd.; T.D. 6,613 ft.; set 9-in. csg. 6,602 ft.; W. O.C.

Hughes County

Homer Doup et al No. 1 Bond, NE NE SW Sec. 7-7-9. S.D. 3,098 ft.

Jackson County

Lippert No. 1 Howard, NE SW NW Sec. 10-3-19w; O.W.D.D. T.D. 1,675 ft.

Kay County

Cooper Drlg. Co. No. 1 Caughlin, SE NE SW Sec. 30-25-1. Drlg. 135 ft.

Crawford No. 1 Boehl, SE SE NW Sec. 34-27-2w. T.D. 1,040 ft.; fsg.

C. C. Nye No. 1 Wolfenbarger, SW NW SW Sec. 16-27-4. T.D. 3,201 ft., sd.

Kaw Oil Co. No. 1 Wolfenbarger, NW NW SE Sec. 9-27-4. T.D. 60 ft.; S.D.; rprs.

Kingfisher County

Ace Gutowsky No. 1 Lankford, NE NE SE Sec. 34-17-6w. Drlg. 5,118 ft.

Kiowa County

C. J. Hagerling No. 1 Kimray, SW SW NW Sec. 36-5-18w. Drlg. 410 ft.

R. L. Emerson No. 1 Handcock, SE SE NE Sec. 26-6-15w. S.D. 520 ft.; mch. moved out.

Lincoln County

Fields & Nagle No. 1 Black, SE SE SE Sec. 31-16-6; O.W.D.D. T.D. 3,980 ft.; S.I.

Muskogee County

Heydrick No. 1 Paschall, NE SE NW Sec. 22-13-19. S.D. 1,446 ft.

Okfuskee County

Carter & Hight No. 1 Rogers, SW SW SW Sec. 6-13-8. Drlg. 2,850 ft.

Okmulgee County

Jim Wise Drlg. Co. No. 1 Morrow, SW NW NE Sec. 16-15-13. 3,000,000 cu. ft. gas 1,930-38 ft.; decreased to 1,000,000 cu. ft. at 1,985 ft.; drlg. 1,986 ft.

Pawnee County

Ed Kelly No. 1 Hill, SW SW SE Sec. 1-21-5. Drlg. 1,590 ft.

Payne County

Comail Oil Co. No. 1 Curran, SE SE SE Sec. 21-19-6. S.D. 1,040 ft.

Starr O. & G. Co. No. 1 Georgia, SE SW NE Sec. 35-18-4. 1st Wlx. 4,051 ft.; 2d 4,083 ft.; T.D. 4,123 ft.; P.B. 3,490 ft.; recmtd. 7-in.

Pittsburg County

Phillips Pet. Co. No. 1 Hubacker, C NW NE Sec. 11-7-5. Drlg. 2,159 ft.

Pontotoc County

J. L. Casey No. 1 Pace, SW SW NE Sec. 14-2-7. H.F.W. at T.D. 1,587 ft.; S.D.O.

H. Z. Moore No. 1 Payne, SE NW SE Sec. 16-4-4. T.D. 997 ft.; S.S.O.; S.D.

Union Dev. Co. No. 1-A Abbott, SW NW NE Sec. 34-3-6. S.D. 4,100 ft.

Pottawatomie County

Wood Oil Co. No. 1 Peters, SW SE NW Sec. 28-8-4. Wlx. 3,540 ft.; cg. 4,545 ft.

Seminole County

Atlantic Ref. Co. No. 1 Atkinson, NW NW SW Sec. 17-6-6. Misener 3,697 ft.; Viola 3,718 ft.; drlg. 3,880 ft.; O.I.H.

Lesslie Rogers No. 1 Kidd, NE SW SE Sec. 33-10-8. T.D. 200 ft.; S.D.

H. S. Moss No. 1 Leachman, C N½ SE NE Sec. 34-10-6. Drlg. 2,620 ft.

W. C. Wood No. 1 Aldridge, SW NW NE Sec. 5-8-8. Set 8-in. 2,854 ft.

Sequoyah County

Thompson Brs. No. 1 Ruby, NW NW NE Sec. 30-12-22. Drlg. 510 ft.

Stephens County

Phillips Pet. Co. No. 1 Culbertson, NW NW SE Sec. 4-1-5w. Drlg. 4,006 ft.

Texas County

Republic Nat. Gas Co. No. 1 Dulabohn, C Sec. 21-6n-15ecm. Drlg. 2,365 ft.

Republic Nat. Gas Co. No. 1 Judd, CSL SW Sec. 24-6n-15ecm. T.D. 2,870 ft.; gas 7,190,000 ft.

Washita County

Continental Oil Co. No. 1 Proctor C NW Sec. 28-10-20w. T.D. 10,195 ft.; heavy drk.; comp. and rig tools.

L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. T.D. 2,190 ft.; S.D.

SOUTHERN OKLAHOMA

Carter County

Pure Oil Co. No. 1 Noble, NE SE Sec. 35-3s-1e. Woodford 4,289 ft.; drlg. sh. 4,455 ft.

Choctaw County

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. T.D. 1,385 ft.; rng. 8-in.

Jefferson County

Bridwell Oil Co. No. 1-I Seay, SE NE SW

Sec. 29-6s-5w. T.D. 1,519 ft., sd.; pmp. 15 B.O. and 100 B.W.
H. W. Weir No. 1 Carmichael, NE NE SW Sec. 23-7s-7w. W.O.C. 102 ft.

Marshall County

Hughes et al No. 1 Vittitto, C NE SE Sec. 11-5s-4e. O.W.D.D.; O.T.D. 7,100 ft.; fsg. csg.

Tillman County

Smith No. 2 Hammel, NE NW NW Sec. 6-5s-15w. T.D. 2,380 ft.; recvd. D.P. and S.D.

ARKANSAS

Calhoun County

J. E. Murdock No. 1 Southern Craft Corp., SE cor. NW NW Sec. 17-14-13. Top Nac. 2,372 ft.; top Tokio 2,920 ft.; S.D. 3,291 ft.; M.I. fuel to dpn.

Columbia County

Atlantic Ref. Co. No. 1 Barnett, C SW SE Sec. 14-17-20. 10¾-in. csg. 2,250 ft.; T. por. oolitic L. 7,410 ft.; sat. L. 7,478-7,549 ft.; drld. to 7,610 ft.; 7-in. csg. 7,499 ft.; T.D. 7,610 ft.; comp.; 2,640 B.P.D. on ½-in. ck.; T.P. 825 lbs.; C.P. 1,200 lbs.; S.I. for stge.
Atlantic Ref. Co. No. 1 A. S. Crisp, NW cor. NW NE Sec. 23-17-20. R.U.
W. L. Goldston No. 1 A. C. Garrett, C SE SW Sec. 13-17-20. Set 16-in. 134 ft.; 10¾-in. csg. 2,227 ft.; drlg. rd.&gr. sh. 5,060 ft.
Pet. Finance Co. No. 1 Garrett, C SW SW Sec. 13-17-20. M.I. rig.
Alice Sydney Oil Co. No. 1 Crisp, Sec. 23-17-20. 16-in. csg. 127 ft.; drlg. 250 ft.
Southwood Oil Co., Inc., No. 1 J. O. Hutcheson, C NE SW Sec. 14-17-20. Drlg. rd.&gr. sh. 5,480 ft.
Southwood Oil Co., Inc., No. 2 J. O. Hutcheson, C SE SW Sec. 14-17-20. M.I. rig.
Standard Oil Co. of La. No. 3 Crone, SW cor. NE SW Sec. 8-16-22. Drlg. sdy. sh. 6,134 ft.
Standard Oil Co. of La. No. 1 Lewis Unit, SE cor. NW NE Sec. 15-17-19. Fsg. for drill collar and bit.

Craighead County

Tannark, Inc., No. 1 Ruby M. Martin, 580 ft. NL, 80 ft. EL, Sec. 35-14n-3e. Fsg. for bit 1,735 ft.

Hot Spring County

John H. James No. 1 Sturgess Lbr. Co., SW cor. SW SE Sec. 24-6-18. 10-in. csg. 58 ft.; S.D. 710 ft.

Lafayette County

Shell Pet. Corp. and Ohio Oil Co. No. 1 Warren, C SE SE Sec. 13-16-24. 13¾-in. 194 ft.; 9⅝-in. 2,272 ft.; T. Bknr. 6,920 ft.; D.S.T. 7,169-7,228 ft.; shwd. S.W. and oil; tstg.; set 7-in. csg. 7,169 ft.; T. L. 7,165 ft.; T. por. L. 7,173 ft.; wtr. contact 7,186 ft.; T.D. 7,225 ft.; D.S.T. 7,155-7,220 ft.; tstd. mud; no S. O., G. or wtr.; swbd. S.W. with rainbow oil; 150 ft. F.I.H., 95% wtr.
Wadley-Erwin et al No. 1 G. W. Taylor, C NE SW Sec. 15-19-26. 13⅜-in. csg. 447 ft.; T. anhy. 5,322 ft.; T. massive anhy. 5,495 ft.; T. Hill sd. 5,845 ft.; cd. 5,850-70 ft.; rec. 14 ft. fine por. gr. sd.; no show and 4 ft. 9 in. bl. sh.; D.S. stk. 5,960 ft.

Little River County

Barbee et al No. 1 Ada Mills, SE cor. SW NW Sec. 18-12-29. R.U.
C. & M. Drlg. Co. No. 1 Strawn, SW cor. SE Sec. 20-10-32. Cd. 1,270-80 ft.; sh.& wtr. sd.; S.D.; W.O.
Harford Oil Corp. No. 1 Pinning, C NE NE SW Sec. 6-13-30. S.D.; W.O. 1,925 ft.
Joe G. Strahan et al No. 2 Dierks Lbr. Co., Sec. 21-12-28. S.D. 3,661 ft.

Lonoke County

Carlisle Oil Dev. Co. No. 1 Walthour-Flake, NW cor. Sec. 10-1n-7w. Set 10-in. csg. 200 ft.
Lonoke-Prairie Dev. Co. No. 1 T. Young, C NW NW Sec. 8-3n-7w. Hole clean; U.R. 8¼-in. csg. 236 ft.
W. L. Tedford No. 1 Anderson, 8-in. 400 ft.; arng. run 5-in. csg. on pkr. to shut off wtr. flw.; T.D. 930 ft.

Miller County—Rodessa

Gerhig Co. No. 2 Watson, NE cor. N SE Sec. 2-20-28. M.I.M.
Gulf Ref. Co. No. 5 Johnson, SW cor. Sec. 29-15-15. R.U.
Lyons & Merritt No. 1 Matlock, SE cor. Sec. 2-20-28. R.U.
Normandie Oil Co. No. 1 Watson, 330 ft. S and E, C Sec. 2-20-28. Set 5½-in. csg. 5,992 ft.; W.O.C. 6,210 ft.

Hoard Exploration Co.
Seismograph Surveys
618 Esperson Bldg.
Houston - - Texas

Mrs. S. O. Thompson No. 1 Gen. Am. Life Ins. Co., SE cor. SE SW Sec. 20-14-26. Cd. 3,657 ft.; slightly por. sdy. L.; D.S. stk.; T.D. 3,825 ft.; D.S.T. 3,677-95 ft.; tstd. 15 thribbles S.W.; 8 min.; S.D.; W.O.; 3,851 ft.

Mississippi County

Benedum & Trees Oil Co. No. 1 Mack, 330 ft. SW cor. NW SW Sec. 2-15n-12e. Top Nac. 2,160 ft.; set 7-in. csg. 2,897 ft.; drlg. very hd. gr. L. 3,946 ft.

Nevada County

Benedum & Trees Oil Co. No. 1 T. Erby, SW cor. SW SW Sec. 3-14-20. R.U.
Webb & Franks No. 1 P. T. Grayson, SW cor. NW SE Sec. 4-14-20. Tokio sd.; D.S.T. 2,098-2,102 ft.; 10 min.; rec. 200 ft. oil and mud; open ck.; set 7-in. csg. 2,099 ft.; T.D. 2,102 ft.; W.O.C.
Texas Canadian Oil Co. No. 3 Stocks, C SW NE Sec. 9-15-22. 10-in. csg. 20 ft.; 7-in. csg. 1,341 ft.; T. Nac. 1,183 ft.; ripped csg. 1,190-96 ft.; bld. S.S.O.; W. O.S.R.; T.D. 1,204 ft.

Ouachita County

Deep Rock Oil Corp. No. 1 C. Wesson, SE cor. NE Sec. 23-15-19. Set 13-in. csg. 350 ft.; drlg. rd. sh. 5,435 ft.

Pulaski County

Coker Oil Corp. No. 1 M. S. Stone, SW cor. NE SE Sec. 36-3n-11w. D.&A. 904 ft.

Union County—Schuler

E. M. Jones No. 1 J. C. Morgan, SE NW Sec. 13-18-18. Set 16-in. 144 ft. and 10¾-in. csg. 2,154 ft.; drlg. rd. sdy. sh. 6,785 ft.
E. M. Jones No. 2 J. C. Morgan, SE cor. NE NW Sec. 13-18-18. Drlg. r.&gr. sh. 5,750 ft.
Lion Oil Ref. Co. No. 2 Henry, C N SE SE Sec. 12-18-18. R.U.&S.D.
C. H. Murphy et al No. 2 fee, NW cor. SW SE Sec. 13-18-18. T. Jones sd. 7,558 ft.; T. por. L. 7,683 ft.; set 7-in. csg. 7,643 ft.; perf. 7,587-7,612 ft.; tstg.; T.D. 7,700 ft.
Phillips Pet. Co. No. 1 Amanda, SE cor. NE SE Sec. 12-18-18. Drlg. rd. sdy. sh. 7,149 ft.
Phillips Pet. Co. No. 2 Amanda, NE cor. NE SE Sec. 12-18-18. 10¾-in. csg. 2,068 ft.; T. Jones sd. 7,563 ft.; cd. 7,564-7,634 ft.; T.D. 7,725 ft.; set 7-in. 7,698 ft.; perf. 7,584-7,609 ft.; comp.; 344 B.P.D.; ¼-in. ck.; T.P. 925 lbs.; C. P. 330 lbs.
Phillips Pet. Co. No. 7 Sewell, NE cor. Lot 4, SW Sec. 7-18-18. Cd. to 7,638 ft.; T.D. 7,735 ft.; set 7-in. csg. 7,713 ft.; perf. 7,592-7,622 ft.; comp.; 480 B.P. D.; 12/64-in. to 24/64-in. ck.; T.P. 225 lbs.; C.P. 1,000 lbs.
Roberts & Murphy No. 3 Leona, NW cor. Lot 6, SW Sec. 7-18-17. S.D. 5,142 ft.; changing to larger rig.

Union County—Other

Ark. Southern Oil Corp. No. 3-A Simmons, NW cor. NE NW Sec. 15-18-13. O.W.D.D. Graves sd. 2,612-29 ft.; tstd. gas; P.B. to Nacatoch sd.; S.D. 2,629 ft.; W.O.
J. R. Lockhart No. 1 P. W. Gaddy, NE cor. NW NW Sec. 12-17-14. T. Crain sd. 3,041 ft.; D.S.T. 3,019-56 ft.; rec. 1,000,000 cu. ft. gas and 240 ft. oil; 450 lbs. W.P.; set 5⅛-in. csg. 3,140 ft.; T.D.; comp.; est. 500 B.P.D., 8% S.W. and 2,000,000 cu. ft. gas; T.P. 400 lbs.; C.P. 700 lbs.
J. R. Lockhart No. 1-A Raulston, NE cor. SW SE Sec. 12-17-14. D.S.T. 3,007-37 ft.; ¼-in. B. and ½-in. T cks.; W.P. 100 lbs.; 3 min.; W.P. 210 lbs.; 9 min.; rec. drlg. mud and cut oil; rng. 7-in. csg. 3,037 ft.; tstd. S.W.; W.O.
J. R. Lockhart No. 3 Raulston, SE cor. NE SE Sec. 12-17-14. 10-in. csg. 105 ft.; W.O.C.
Mullins & Brooks et al No. 1 Nash, 500 ft. N and 338 ft. W of SE cor. NW SE Sec. 7-17-13. 10-in. csg. 148 ft.; D.S.T. 3,037-52 ft.; rec. 250 ft. oil and 30 ft. S.W.; 14-min.; W.P. 4 lbs.; top pay 3,232 ft.; 5½-in. 3,100 ft.; drld. out to 3,069 ft.; perf. 3,022-44 ft.; tstd. S.S.O.&G. and S.W.; reperf. 3,020-44 ft.; swbd. 100 B.P.D. for 3 days; W.O. S.R. 3,232 ft.
Mullins, Brooks et al No. 2 Nash, NE cor. NE SW Sec. 7-17-13. 10-in. 148 ft.
Sloan Wells, Tr., No. 4 G. J. Childs, 150 ft. NW cor. NE SW Sec. 8-16-16. O.W. W.O.; O.T.D. 2,656 ft.; S.D.; W.O.

NORTH MISSISSIPPI

Calhoun County

L. C. Lucas No. 1 E. C. Boland, 400 ft. E and 500 ft. S. NW cor. SW Sec. 9-22n-9e. S.D. 791 ft.

Clarke County

Jeremiah L. Ryan et al No. 1 M. Eddins, 500 ft. SE cor. Sec. 29-2n-14e. S.D. 290 ft.

Hinds County

G. Jefferys No. 1 Gaddis Farms, Inc., NW cor. SE Sec. 26-7n-4w. S.D. 3,448 ft.
Cleve Love et al No. 1 S. F. Johnson, NE cor. Sec. 29-6n-1w. S.D. 5,218 ft.. sd.; arng. D.D.

Montgomery County

Dr. T. H. Chichester No. 1 Mitchell, Sec. 36-20n-7e. Drk.

Pontotoc County

Waldrop et al No. 1 Bray, Sec. 17-11s-1e. S.D. 310 ft.

Simpson County

Cleve Love No. 1 N. E. Garner, SW cor SW NE Sec. 1-10n-17w. S.D. 900 ft.
Goodwill O. & G. Co. No. 1 Berry, Sec 33-2n-4e. S.D. 2,810 ft.

Yalobusha County

Chas. W. Crader et al No. 1 John Bruce Jane, 990 ft. NE cor. Sec. 24-11s-6w. Top chk. 1,565 ft.; drlg. chk. 2,308 ft.

FLORIDA

Levy County

Florida Oil Discovery No. 2 Cedar Key Co., Sec. 9-15s-13e. S.D.; W.O.; T.D. 4,092 ft.

Nassau County

St. Mary Oil Corp. No. 1 Hillard, Sec. 19-4n-24e. Set 6⅝-in. csg. 3,935 ft.; S.D.; fsg. for bit.

Lake County

Union O. & R. Co. No. 1 Gulf Expln., Sec. 17-24s-25e. S.D. 235 ft.

Suwanee County

J. W. Phillips Oil Expltn. Co. No. 1 Shilkett, Sec. 14-4s-14e. Drlg. 150 ft.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

Ark. La. Gas Co. No. 2 Gayoso, 660 ft. SW cor. SE Sec. 14-16-10. T. Tr. Pk. 5,432 ft.; D.S.T. 5,159-5,218 ft.; tstd. mud.; cg. 5,477 ft.
Producers O. & G. Co. No. 1 Graves & Thomas, SE cor. SW SE Sec. 23-15-10. Set 13⅜-in. csg. 180 ft.; D.&A. 2,936 ft.
J. D. Stovall No. 7 Ark. fee, SE cor. NE SE Sec. 15-19-11. Comp.; 10 B.P.D.; 6-in. csg. 366 ft.; T. sd. 371 ft.; T.D. 372 ft.

Bossier Parish

Premier Inv. Co. No. 1 McDade, SE SW NE Sec. 28-19-11. T.D. 2,384 ft.; acd. with 1,000 gal.; csg. seat gave away; hole full S.W.; 5½-inch csg., 2,342 ft. pmpg. 5 B.O.P.D. and 25 bbls. S.W.; W.O. 2,432 ft.

Caddo Parish

R. E. Allison No. 3 Ellerbe, NE cor. Sec. 28-18-14. Loc.
Claude Bagley No. 1 Crystal fee, NE SW Sec. 24-21-16. Set 6-in. csg. 996 ft.; drlg. plug; T.D. 1,003 ft.
R. L. Bauman No. 1 Dorian, SE cor. NE Sec. 34-18-14. R.U.
J. M. Buckler No. 2 Stiles, NE cor. Sec. 17-21-16. R.U.
Carney et al No. 3 Hart, SE NW Sec. 21-21-16. Set 8-in. csg. 1,568 ft.; tstg. 1,839 ft.
Paul Cooper No. 2 Stiles, SW SE Sec. 28-21-16. Set 6-in. csg. 1,542 ft.; used 1,500 gal. acd. and tstd. dry; tstd. S.O. 1,851 ft.; drlg. to 1,977 ft.; tstd. S.W.; W.O.
L. L. Davidson No. 4 Muslow, NE SE Sec. 26-21-16. T.D. 2,257 ft.; W.O.S.R.
J. P. Driscoll et al No. 1 Woolworth, SE cor. Sec. 26-20-15. Set 16-in. csg. 208 ft.; W.O.O.
Claude Ferguson No. 3 Lawhon, SW SE Sec. 7-20-15. Set 7-in. csg. 1,355 ft.; tstg. 1,570 ft.
Claude Ferguson No. 4 Lawhon, NE cor. Sec. 7-20-15. 10-in. csg. 108 ft.; T.D. 250 ft.
H. C. Prod. Co. No. 1 Kinnebrew & Ratcliff, NE cor. Sec. 5-19-16. Fsg. 2,235 ft.
Harry Hanbury No. 1 Sample, C SW SE Sec. 23-18-14. Set 9⅝-in. csg. 1,503 ft.
Hurricane Pet. Corp. No. 1-C Chandler, C SW SE Sec. 34-18-14. Drlg. 100 ft.
Hurricane Pet. Corp. No. 1 North, NW cor. SE NE Sec. 34-18-14. Set 9⅝-in. 1,637 ft.; fsg. D.S. 5,415 ft.
R. O. Kniveton No. 1 Kahn, NW cor. Sec. 35-18-14. Drlg. sh.&L. 4,330 ft.
La. Oil Prod. Co. No. 15-B Muslow, Sec. 4-20-15. Set 7-in. csg. with 4½-ft. perf. on bttm. at 2,148 ft.; W.O.S.R.
Ben Levy No. 1 Crystal fee, SW cor. Sec. 25-21-16. Set 6-in. 1,350 ft.; tstd. dry 1,650 ft.; W.O.
C. D. Loe No. 1 Meyer, SE cor. Sec. 33-18-14. Top Pettit 5,592 ft.; T.D. 5,628 ft.; perf. 5,602-25 ft. and tstd. S.W.; P.B. 5,611 ft.; 5½-in. csg. 5,627 ft.; T. D. 5,631 ft.; P.B. 5,583 ft.; drld. out to 5,610 and perf. 5,602-05 and tstd. S.W.; perf. 5,553-57 ft.; tstd. csg. and perf. 5,592-95 ft. Set tbg. with packer 5,600 ft. tstd. S.W. and S.O. 5,592-98 ft. and reperf. 5,589-92 ft.; set pkr. 5,587 ft. and tstd. S.W. 5,600 ft.; S.O.; S.D.; W.O.; T.D. 5,598 ft.; O.T.D. 5,631 ft. set retainer plug 5,603 ft. and sqzd. perf. points and reperf. 5,590-5,600 ft.; tstd. oil; no S.W.; swbd. dry; S.O.; used 500 gal. acd.; flwd. by heads, est. 5 B.P.H.; 50% S.W.; ½-in. ck.; stopped flwg.; drld. out cmt. to 5,631 ft.; sqzd. off all perf.; arng. reperf.
Magnolia Pet. Co. No. 5 Caddo Lve. Bd., NE cor. Sec. 7-20-15. T.D. 1,562 ft.; acdzd. with 3,000 gal. and tstg.
L. H. Mahon No. 1 Henderson, SW cor. Sec. 27-22-16. Drlg. 1,071 ft.
Manziel et al No. 3 Ramsey, NE SE Sec. 32-21-15. Set 5⅛-in. csg. 1,348 ft.; acd with 2,000 gal. at 1,590 ft.; W.O.S.R.
Oils, Inc., No. 1 Cazaux, SW cor. Sec. 10-16-13. O.W.W.O.; O.T.D. 3,500 ft.; wash to bttm., 3,500 ft.; S.D.
Sam Ripps No. 1 Chew-Lvy, Bd., Sec. 23-21-16. 8-in. csg. 1,025 ft.; tstd. S.W.; abd. 1,037 ft.
Southern Star Pet. Corp. No. 1 Muslow, SE NW Sec. 17-20-15. Pmpd. S.W.; O.T.D. 1,698 ft.; S.D. 2,150 ft.
J. O. Whittington No. 1 Grayson, C SE SE Sec. 30-19-15. Set 9⅝-in. csg. 2,200 ft.; W.O.C.
R. W. Williams No. 2 Ark. Fuel, NW cor. SE SE Sec. 26-21-16. 10-in. 64 ft.; 5½-in. 2,230 ft.; comp.; pmpg. 75 B. P.D.; 2,254 ft.
R. W. Williams No. 3 Ark. Fuel, SW cor. NW SW Sec. 25-21-16. R.U.

Caldwell Parish

G. W. Ziegen et al No. 15 Cent. La. Lbr. Co., 1,650 ft. S, 330 ft. E, NW cor. Sec. 32-15-2e. Drlg. 1,653 ft.

Catahoula Parish

Sibley Sabine Oil Co. No. 1 Peck, S½ Sec. 36-10-8e. D.&A. 3,140 ft.

Claiborne Parish

E. T. Oakes et al No. 2 Kilgore, C NW SE Sec. 28-21-5. Hd. to slightly por. L. 5,294-5,303 ft.; 5½-in. csg. 5,287 ft.; used 6,000 gal. acd.; swbg. to test; tstd. S.S.O. 5,324 ft.; split csg. 2,600 ft.; cmtd. csg.; swbd. dry; set tbg. with pkr.; cannot cmt. off S.W.; T.D. 5,234 ft.; set 4½-in. csg. 5,290 ft.; tstd. dry; S.O. 5,324 ft.; used 5,000 gal. acd.; swbg. to test; 2,000 ft. O.I.H.

De Soto Parish

S. S. Alexander No. 1-A Stoll, Sec. 5-12-16. Set 7-in. csg. 2,705 ft.; acd. with 3,000 gal. and tstd. est. 2,000,000 ft. gas; 400 lbs.; D.S.T. 2,984-3,046 ft.; tstg. 165 ft. mud cut with oil, 35 min.; arng. dpn. 3,046 ft.
Paul Miller No. 2 Jal Drlg. Co., NE Sec. 5-11-11. Set 7-in. csg. 4,038 ft.; perf. 3,901-14 ft.; C.I.; W.O. ga.; R.P. 1,400 lbs.; O.T.D. 4,205 ft.; perf. csg. 3,901-14 ft.; C.I.; W.O. ga.; R.P. 1,400 lbs.
Tippett Oil Corp. No. 1 Williams, SE cor. Sec. 31-13-11. Set 7-in. csg. 1,165 ft.; tstd. S.W. 1,410 ft. P.B. 1,335 ft. and acd. 3,000 gal.; tstd. S.W. 1,360 ft.; abd.; T.D. (P.B.) 1,360 ft.

La Salle Parish

Alfred Black, Tr., No. 1 Wright, Sec. 35-10-1e. R.U.
G. C. Walsenham No. 1 Dean, NW cor. SE Sec. 23-9-1e. 6-in. csg. 1,595 ft.; tstd. S.W.; S.O.; sd. 1,602-05 ft.; T.D. 1,654 ft.

Madison Parish

Continental Oil Co. No. 3 Singer, C S SW NW Sec. 2-15-11e. D.&A. 3,705 ft.

Natchitoches Parish

Jack Lent et al No. 1 Whatley, SW cor. Sec. 17-10-10. S.O.&G. reported at 1,490-1,516 ft.; T.D. 1,516 ft.; D.S.T. 1,470-56 ft.; tstd. dry in 20 min.; did not set csg.; drlg. L.&sh. 2,025 ft.

Red River Parish

Crow Drlg. Co. No. 1 Crichton, 990 ft. S and E, C Sec. 17-13-10. Set 4½-in. csg. 2,540 ft.; T.D. 2,562 ft.; perf. 2,505-39 ft.; W.O.S.R.
J. C. Prine No. 3 Haynes, SW cor. Sec. 20-13-10. 5¾-in. csg. 2,510 ft.; D.D. 2,560 ft.; W.O.S.R.
H. B. Schumacher No. 1 Crichton, SW cor. NW Sec. 18-13-10. Arng. set csg. 1,360 ft.
D. J. Simmons et al No. 1 Richardson, NE cor. Sec. 24-13-11. R.U.

Sabine Parish

Clyde Creighton No. 1 Bowman Hicks, C NE NW Sec. 3-7-12. 10-in. csg. 60 ft. 7-in. csg. 2,422 ft.; W.O.S.R.; T.D. 2,618 ft.
Earl F. Fox No. 1 Cook Ld. Co., SW cor. SE NW Sec. 1-9-12; O.W.W.O. O.T.D. 3,655 ft.; arng. dpn. 3,655 ft.
A. B. House No. 1 Sabine, NW NW Sec. 23-7-14. 8-in. csg. 2,134 ft.; used 7,000 gal. acd.; tstd. dry; cond. mud 3,642 ft.; arng. set 7-in. 3,500 ft.; T.D. 3,642 ft.
Hunter Co. No. 8 Bowman Hicks, C NE NW Sec. 13-7-13. Set 10-in. csg. 46 ft.; T.D. 1,640 ft.
LaGrande & Brown No. 1 Tatum, NE cor. NW NE Sec. 17-8-13. Tstd. dry 2,130 ft.; tstd. S.G.; acd. with 1,000 gal.;

tstd. dry 2,340 ft.; did not acd.; tstd. S.W.; S.O. 2,340 ft.; 500 ft. O.I.H.; used 3,000 gal. acd.; tstd. S.O. 2,340 ft.; will set short string 4-in. csg. 2,340 ft.; W.O.S.R.; 800 ft. O.I.H.

H. L. Nutting No. 1 Williams, SW cor. Sec. 13-7-11. T.D. 3,130 ft.; used 3,000 gal. acd.; swbg. S.W. 2,860 ft.; will P. B. 2,755 ft.; tstd. S.W.; P.B. 2,730 ft.; acdz.; tstd. S.W.; S.O. 2,730 ft.; S.D.: T.D. 2,730 ft.

Major Oil Co. No. 1 Long Bell, SW cor. SW SE Sec. 1-7-13. Set 10-in. csg. 60 ft.

W. L. Posey et al No. 3 Hale, NW cor. NW Sec. 12-7-13. R.U.

C. R. Schuster No. 1 Mary Garcia, NE cor. NW SE Sec. 15-7-13. T.D. 2,603 ft.; P.B. 2,585 ft.; tstd. dry; acdz. and tstd. dry; D.&A.

C. H. Smith No. 1 Sabine Lbr. Co., NE cor. NW NW Sec. 9-7-13. Set 10-in csg. 66 ft.

Sutton Zwolle Oil Co. No. 2 Sabine, NW cor. NE NW Sec. 23-7-14. Set 13-in. csg. 86 ft.

Tensas Parish

H. V. Schumacker No. 4 Mound Plantation, Sec. 29-11-12e. Rmg. to bttm.; T. D. 2,450 ft.; S.D. for D.S.T. 2,450 ft.

Webster Parish

R. L. Fisher et al No. 1 S. P. D. Coyle, 660 ft. N and 1,880 ft. E of SW cor. Sec. 23-21-10. Holly. sd. 5,544-59 ft. and 5,809-16 ft.; set 5½-in. csg. 5,782 ft.; T.D. 5,998 ft.; tstd. S.G.; swbd. S.O.& G.; rocking with gas.

Hunt Oil Co. No. 4 Bodcaw-Stewart. 2-155 ft. N and 660 ft. E, SW cor. Sec. 34-21-10. Holly. sd. 5,821-47 ft.; set 9⅝-in. csg. 5,802 ft.; tstd. S.O.&G. in Hollwy. sd.; drlg. L.&sh. 6,223 ft.

Hunt Oil Co. No. 5 Bodcaw-Stewart, NW cor. NE Sec. 33-21-10. Drlg. 677 ft.

Hunt Oil Co. No. 1 Sandifer, C NE NE Sec. 4-20-10. No Hollwy. sd.; top "D" sd. 8,534 ft.; S.O. 8,534-50 ft.; "D" sd 8,537-68 ft.; Bodcaw sd. 8,628-68 ft.; set 7-in. csg. 8,715 ft.; perf. csg. 8,540-65 ft. and tstd. S.W.; tstd. dry 8,538-40 ft., 8,540-42 ft., 8,542-44 ft., and 8,544-46 ft.; perf. again at 8,543-46 ft.; tstd. dry 8,543-46 ft.; sqzd. off perf.; arng. dpn.

Hunt Oil Co. and Stanolind O. & G. Co. No. 1 Coffee-Webster Inv. Co. Unit, C NE NW Sec. 36-31-10. 13⅜-in. csg. 677 ft.; no Holly. sd.; set 9⅝-in. csg. 5,780 ft.; drlg. sh.&L. 7,101 ft.

Hunt Oil Co. No. 5 Webb, 75 ft. W, C SE NE Sec. 14-21-16. Drlg. sh.&L. 4,238 ft.

Magnolia Pet. Co. No. 4 Branton, NE cor. Sec. 6-22-9. 9⅝-in. csg. 5,933 ft.; T. lower Marine 7,750 ft.; T. Bodcaw sd. 8,193 ft.; T. Davis 8,442 ft.; show some heavy oil at 8,450 ft.; drlg. 8,876 ft.

Magnolia Pet. Co. No. 1 Cox. C NW SW Sec. 15-21-10. Set 13⅜-in. csg. 847 ft.; drlg. sh.&sd. 5,070 ft.

Magnolia Pet. Co. and Ohio Oil Co. No. 1 Coyle-Hodges Unit, SW cor. NW Sec. 21-21-10. Drlg. sdy. sh. 3,295 ft.

Magnolia Pet. Co. No. 1 Roseberry Unit, 20 ft. N and W, C SE Sec. 29-23-9. Set 13⅜-in. csg. 887 ft.; T. Pettit L. 5,725 ft.; S.O. 5,764-66 ft.; T. Tr. Pk. 5,900 ft.; set 9⅝-in. csg. 5,962 ft.; drlg. sh.&sd. 6,890 ft.

Ohio Oil Co. No. 1 Merritt, NE cor. Sec. 14-21-10. R.U.

Oliphant Oil Corp. No. 1 Gray & Stephens, C SE SW Sec. 35-21-10. Top Tr. Pk. 5,882 ft.; Hollwy. sd. 5,975-88 ft.; 9⅝-in. csg. 5,595 ft.; "D" sd. 8,397-8,420 ft.; oil; Bodcaw sd. 8,487-8,535 ft.; gas; rng. csg. 8,597 ft.

Oliphant Oil Corp. No. 1-A Hodges, C NW NE Sec. 3-20-10. Top Tr. Pk. 5,995 ft.; no Holl. sd.; set 9⅝-in. csg. 5,610 ft.; drlg. sh. 7,520 ft.

Oliphant Oil Corp. No. 2-B Stewart, C NW NW Sec. 4-20-10. No Hollwy. sd.; 9⅝-in. csg. 5,615 ft.; top "D" sd. 8,594 ft., S.W.; T. Bodcaw 8,684 ft.; 7-in. csg. 8,672 ft.; tstd. S.O.&G. and S.W. 8,692 ft.; D.S.T. failed; used 2,000 lbs. input gas and tstd. 55 bbls. dist. and 103 bbls. S.W. per day; tstd. dry 8,715 ft.; Bodcaw sd. 8,683-8,732 ft.; Davis sd. 8,929-9,198 ft.; tstg. 9,198 ft.

Stanolind O. & G. Co. and W. Delaney No. 1 Pardee-Coffee Unit, C NE Sec. 36-21-10. T. Tr. Pk. 5.932 ft.; no Holloway sd.; set 9⅝-in. csg. 5,955 ft.; drlg. sh.&sd. 7,674 ft.

Union Prod. Co. No. 1 Walker Unit, 50 ft. S, C SE Sec. 30-18-8. Set 9⅝-in. csg. 8,490 ft.; T. Pettit 6,665 ft.; drlg. L.&sh. 6,783 ft.

Woodley Pet. Co. No. 1 J. O. Couch, C NW SW Sec. 36-21-10. T. "D" sd. 8,450 ft.; rec. 10 ft. sd. sat. with oil; drlg. sh. 8,510 ft.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 Franciol, Sec. 67-12s-3e. Drk

Bancroft—Beauregard Parish

Republic Prod. Co. No. 4 Columbia Ld & Tbr. Co., Sec. 16-6s-13w. T.D. 7,335 ft.; 7-in. csg. 7,317 ft.

Republic Prod. Co. No. 5 Columbia Ld. ft.; 7-in. csg. 7,315 ft.; I.P. 275 B.P.D.; ¼-in. ck.

Republic Prod. Co. No. 4 Lutcher Moore Lbr. Co., Sec. 16-6s-13w. S.D. 1,458 ft.

Republic Prod. Co. No. 1 Louis Whitman, Sec. 15-6s-13w. T.D. 2,039 ft.; fsg.

Bateman Lake—St. Mary Parish

Texas Co. No. 2 State-Bateman Lake. Sec. 21-16s-12e. Driving piling.

Baton Rouge—East Baton Rouge Parish

Geo. Helis et al No. 1 McInnis, Sec. 36-8s-1w. Loc.

Wm. Helis No. 5 Duplantier, Sec. 65-7s-1w. Drlg. sdy. sh. 2,531 ft.

Wm. Helis et al No. 3 Harry B. Nelson, Sec. 36-7s-1w. 10¾-in. csg. 2,072 ft.; drlg. sh.&shlls. 4,761 ft.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 3 Schwing Lbr Co., Sec. 66-9s-11e. Drlg. sh. 7,917 ft.

Bayou Bouillon—St. Mary Parish

Transcontinental Oil Co. No. 5 State, Sec. 13-9s-9e. T.D. 1,275 ft.; 10¾-in. csg. 1,170 ft.; T.D. 3,100 ft.; P.B. 1,700 ft.; prep. to sdtrk. 1,400 ft.; cd. oil sd. 3,360-80 ft.; 7-in. csg. 3,510 ft.

Bayou Choctaw—West Baton Rouge

La. Crusader No. 5 Schwing, Sec. 29-8s-11e. 9⅝-in. csg. 2,250 ft.; T.D. 4,755 ft.; P.B. 4,200 ft.; sdtrkd. 4,214 ft.; T.D. 7,878 ft.; P.B. 7,530 ft.; stk. D.S. P.B. 5,800 ft.; sdtrkd.; T.D. 5,890 ft.; P.B. 5,200 ft. to sdtrk.

La. Crusader No. 6 Schwing, Sec. 29-8s-11e. Drlg. sh. 2,235 ft.

Bayou Des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 3 St. Charles Ld. Co., Sec. 13-15s-20e. Drlg. sd. 2,236 ft.

Amerada Pet. Corp. No. 4 St. Charles Ld. Co., Sec. 13-15s-2e. Loc.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 2 L.L.&E., Bay St. Elaine. Sec. 18-22s-18e. Drlg. sh.&sd. 2,318 ft.

Texas Co. No. 2-B State-Bay, Sec. 13-22s-17e. Drlg. sh. 1,205 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 4 State-Terrebonne Bay, Sec. 19-23s-20e. T.D. 6,463 ft.; P.B. 5,430 ft.; sdtrkd.; drlg. sh. 6,463 ft.

Texas Co. No. 29 State, Sec. 17-23s-20e. Rig.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 26 Sch. Ld. Sec. 16-14s-13w. T.D. 2,465 ft.; 13⅜-in. csg. 2,465 ft.; T.D. 6,564 ft.; fsg.

Chacahoula—La Fourche Parish

Sun Oil Co. No. 5 Dibert, Stark & Brown Cypress Co., Sec. 70-15s-15e. 16-in. csg. 110 ft.

Sun Oil Co. No. 4 Dibert Stark and Brown Cypress Co., Sec. 70-15s-15e. Drlg. sh.&sdy. sh. 7,414 ft.

Charenton—St. Mary Parish

Edwards & Aber No. 2 Blanchard, Sec. 21-13s-9e. T.D. 1,148 ft.; 5½-in. csg. 1,141 ft.; tstd. S.W.; P.B. 1,132 ft.; perf. csg. 1,125-32 ft., W.O.S.R.

Edwards & Aber No. 1 Lebland, Sec. 21-13s-9e. Top sd. 1,119 ft.; T.D. 1,123 ft.; abd.

Kinsley Oil, Inc., No. 1-B Hertel, Sec. 30-13s-9e. Loc.

Pan American Prod. Co. No. 1 Law Realty, Sec. 31-13s-10e. T.D. 7,225 ft.; P.B. 6,480 ft.; W.O.C.

Pan American Prod. Co. No. 4 South Coast Corp., Sec. 30-13s-10e. R.U.R.

Convent—St. James Parish

Continental Oil Co. No. 2 Realty Operators, Inc., Sec. 16. 13⅜-in. csg. 1,492 ft.; T.D. 7,889 ft.; fsg. for D.P.

Creole—Cameron Parish

Superior Oil Co. et al No. 4 State-Gulf of Mexico, Twp. 15s-8w. T.D. 5,153 ft.; 5½-in. csg. 5,140 ft.; I.P. 320 B.P.D.; ¼-in. ck.

Darrow—Ascension Parish

Humble O. & R. Co. No. 20 Community Sec. 30-10s-2e. 10¾-in. csg. 3,122 ft.; drlg. sh. 6,112 ft.

Kiva Oil Co. No. 1 Duplessis, sec. 69-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 22 State, Sec. 5-22s-16e. 13⅜-in. csg. 2,030 ft.; T.D. 6,027 ft.; P.B.; sdtrkd.; T.D. 6,602 ft.; trying to sdtrk. at 6,208 ft.; drlg. sh. 6,704 ft.

Edgerly Field—Calcasieu Parish

R. H. Kean et al No. 1 M. J. Muller et al, Sec. 29-9s-11w. 7-in. csg. 2,804 ft.; bailed S.W.; drlg. sh. 2,941 ft.

Fausse Point—Iberia Parish

Texas Co. No. 5 State Lake-Fausse Point, Sec. 35-11s-8e. Drlg. sdy. sh. 9,928 ft.

Gibson—Terrebonne Parish

Shell Pet. Corp. No. 2 Rek, Sec. 40-17s-15e. T.D. 10,650 ft.; abd.

Garden Island—Plaquemines Parish

Texas Co. No. 31 State, Sec. 28-23s-33e. Drlg. sh. 6,050 ft.

Gillis—Calcasieu Parish

Union Sulphur Co. No. 12 State, Sec. 12-9s-8w. T.D. 9,070 ft.; P.B. 8,613 ft.; set retainer at 6,793 ft.; perf. csg. 6,780-90 ft.; flwg. 3 bbls. net oil, 99% S.W.

Golden Meadows—La Fourche Parish

Martex Pet. Corp. No. 1 Falgout Holding Co., Inc., Sec. 9-19s-22e. Drk.

Grand Bay—Plaquemines Parish

Gulf Oil Corp. No. 25-A Erwin, Sec. 13-12s-10w. Drk.

Gulf Oil Corp. No. 3 Grand Prairie, Sec. 6-20s-19e. 20-in. csg. 70 ft.; 13⅜-in. csg. 1,600 ft.; drlg. sh. 6,673 ft.

Gulf Oil Corp. No. 4 Grand Prairie Lve. Dist., Sec. 48-20s-18e. Loc.

Gulf Oil Corp. No. 2 State, Sec. 6-20s-19e. Loc.

Gueydan—Acadia Parish

A. M. Barbe No. 1 G. L. Humble, Sec. 27-11s-1w. T.D. 8,685 ft.; perf. csg. 4,490-96 ft.; tstd. S.W.; S.D.

Hackberry—Cameron Parish

F. W. Bennett No. 1 Bickford, Sec. 37 12s-10w. Drlg. sh. 4,475 ft.

L. W. Capps et al No. 1 Duhon, Sec. 27 12s-10w. T.D. 3,487 ft.; 7-in. csg. 3 271 ft.; pmpd.; recvd. no fluid; cutting and pulling screen.

Stanolind O. & G. Co. No. 56 State, Kelso Bayou, Sec. 22-12s-10w. Drlg. sh 3,970 ft.

Superior Oil Co. No. 5 Benson Vincent, Sec. 30-12s-10w. Drlg. sh. 7,890 ft.

Texas Co. No. 16-B State-Hackberry Twp. 12s-9w. T.D. 8,201 ft.; salt; 7-in. csg. 7,950 ft.

Texas Co. No. 24-B State, Sec. 12s-9w T.D. 8,052 ft.; sdtrkd.; T.D. 8,163 ft.; 7-in. csg. 8,050 ft.; perf. csg. 7,90 16 ft.; tstd. S.W.; P.B. 7,780 ft.; perf csg. 7,763-74 ft.; W.O.S.R.

Union Sulphur Co. No. 11 Doiron, Sec 37-12s-10w. Drlg. sh. 6,898 ft.

Horseshoe Bayou—St. Mary Parish

Texas Co. No. 2 State, Sec. 37-17s-9e. 9⅝-in. csg. 11,631 ft.; T.D. 12,768 ft.; washing hole.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1 Adeline Sugar Co. Sec. 39-13s-9e. Drlg. sh. 9,523 ft.

Herton Oil Co. No. 9 Carter, Sec. 38 13s-9e. Drlg. sh. 10,228 ft.

Jefferson Island—Iberia Parish

Texas Co. No. 2 Jefferson Island, Sec. 58-12-5e. 18⅝-in. csg. 40 ft.; drlg. L.& sh. 6,510 ft.

Texas Co. No. 2 State-Lake Peigneur, Twp. 12s-5w. Drk.

Jennings—Acadia Parish

W. T. Burton No. 6 Roboria, Sec. 41-9s-2w. 7-in. csg. 6,721 ft.; fsg. tbg.; T.D 6,997 ft.; sdtrkd. at 6,118 ft.; drld. to 6,178 ft.; sdtrkd. at 6,023 ft.; T.D. 6,732 ft.; trying to drill by fish; P.B. 6,104 ft.; W.O.C.; sdtrkd. 6,020 ft.; T.D. 6,056 ft.; 7-in. csg. 2,203 ft. and 10¾-in. csg. 2,108 ft.; sdtrkd.; drld into old hole; P.B.; sdtrkd. 2,302 ft.; drlg. sh. 4,320 ft.

A. W. Forrester No. 1 Jules Clement, Sec. 46-9s-2w. T.D. 3,060 ft.; S.D.

Glassell & Glassell No. 5 McFarlain, Sec. 41-9s-2w. Loc.

Glassell & Glassell No. 6 McFarlain, Sec. 41-9s-2w. Loc.

Glassell & Glassell No. 7 Trushel, Sec. 42-9s-2w. T.D. 7,628 ft.; 7-in. csg. 7,624 ft.; perf. csg. 7,155-85 ft.; flwg. on gas lift.

Gulf Ref. Co. No. 1 Lamb, Sec. 45-9s-2w. Drlg. sh. 6,969 ft.

Jolly Pet. Co. No. 3 McFarlain, Sec. 41-9s-2w. T.D. 7,288 ft.; 7-in. csg. 7,178 ft.

L. & L. Oil Co. No. 4 Houssiere Latreille Sec. 47-9s-2w. T.D. 1,825 ft.; 7-in. csg 1,817 ft.; T.D. 1,881 ft.; pmpd. dry S.D.

Port City Oil Co. No. 23 Jennings Haywood, Sec. 41-9s-2w. T.D. 2,761 ft.; 7 in. csg. 2,300 ft.; W.O.C.

Shell Pet. Corp. No. 1 Prather. Drlg. sdy. sh. 2,310 ft.

Stanolind O. & G. Co. No. 114 Crowley Oil & Mineral Co., Sec. 48-9s-2w. R.U.

Superior Oil Co. No. 16 Wm. Leckeu Sec. 42-9s-2w. Drlg. sh. 7,190 ft.

Lafitte—Jefferson Parish

Texas Co. No. 1 Sch. Bd., Sec. 16-17s 24e. 13⅜-in. csg. 2,030 ft.; T.D. 10,622 ft.; 9⅝-in. csg. 10,622 ft.; drlg. sh.& L. 11,582 ft.

Texas Co. No. 2 State-Bayou Norman, Sec. 21-17s-24e. Loc.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp.-Humble O. & R. Co. No 9 La Fourche Basin, Sec. 2-18s-25e Drlg. sh.&L. 1,903 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 22 State, Sec. 8-23s-18e T.D. 6,027 ft.; sdtrkd.; cg. sdy. sh. 5,131 ft.

Leesville—La Fourche Parish

Lincoln Oil Co. No. 2 Visier, Sec. 26-21s-22e. T.D. 4,188 ft.; P.B. 3,660 ft.; run screen; no report.

Texas Co. No. 7 Leeville, Sec. 27-21s-22e. T.D. 8,667 ft.; D.S. stk.; sdtrkd. T.D. 8,436 ft.; sdtrkd.; T.D. 8,685 ft.; stk. 9⅝-in. csg. at 8,577 ft.; sdtrkd 8,440 ft.; stk. D.S.; sdtrkd.; T.D. 9,682 ft., heaving sh.; mixing mud.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 2 H. J. Ellender, Sec. 32-19s-19e. Drlg. sh. 4,052 ft.

Lake Long—La Fourche Parish

Fohs Oil Co. No. 7 State-Lake Long Twp. 17s-19e. 18⅝-in. csg. 295 ft.; T. D. 10,248 ft.; 7-in. csg. 9,928 ft.; P.B. 9,875 ft.; perf. csg. 9,862-68 ft.; tstd. 780 lbs. press.; recvd. 270 ft. drlg. mud, cut with gas.

New Iberia—Iberia Parish

Canal Oil Co. No. 7 Bernard, Sec. 54-12s-7e. T.D. 5,620 ft.; perf. csg. 4,632-60 ft.; I.P. 300 B.P.D.; ¼-in. ck.

Canal Oil Co. No. 5 Sabatier, Sec. 54-12s-7e. Drk.

Wm. Helis No. 5 Schwing, Sec. 56-12s-7e. T.D. 4,954 ft.; P.B. 4,188 ft.; W.O.C.

Texas Co. No. 2 Bryant, Sec. 25-12s-7e. R.U.

Texas Co. No. 1 DeCuir, Sec. 25-12s-7e. Drlg. sd.&grvl. 234 ft.

Texas Co. No. 2-A Hanzon, Sec. 54-12s-7e. R.U.

Texas Co. No. 3-B Hanszen, Sec. 54-12s-7e. T.D. 6,856 ft.; 7-in. csg. 6,838 ft.; W.O.C.

Texas Co. No. 1 Renaudet et al, Sec. 71-12s-7e. T.D. 6,609 ft.; rmg.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 3 H. T. Habetz, Sec. 45-8s-1e. T.D. 8,748 ft.; 7-in. csg. 8,748 ft.; tstd. S.W. 8,577-79 ft.; P.B. to test; 8,100-ft. sd.; perf. csg. 8,198-8,203 ft.; I.P. 798 B.P.D., ¼-in. ck.

North Tepetate—Acadia Parish

Atlantic Ref. Co. No. 1 Alcide Fournerat, Sec. 11-7s-2w. Drlg. 7,510 ft.

Atlantic Ref. Co. No. 3 Klumpp, Sec. 13-7s-2w. T.D. 8,700 ft.; run csg.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 5 Cormier, Sec. 4-6s-5e. Drlg. sh. 3,322 ft.

Pan American Prod. Co. No. 1 Rene Nezat. Drlg. 600 ft.

Y. D. Spill No. 1 Gaudet, Sec. 4-6s-5e. S.D. 4,700 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 37 Orleans Lv. Bd., Sec. 23-18s-15e. T.D. 3,138 ft.; rng. 13⅜-in. csg. 3,061 ft.; cd. sd. O.S. 8,065-70 ft.; showed 3 ohms resistivity on electrical survey; T.D. 8,070 ft.; I. P. 23 B.P.H.; ¼-in. ck.; T.P. 955 lbs.; C.P. 200 lbs.

Western Gulf Prod. Co. No. 1 Paseale. Sec. 6-18s-27e. Loc.

Western Gulf Prod. Co. No. 1-A Treadway, Sec. 6-18s-27e. Loc.; (cor.).

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp. No. 2-A Orleans Levee Bd., Sec. 7-19s-17e. Drlg. sd.&sh. 5,320 ft.

Gulf Ref. Co. No. 5 State, Sec. 17-19s-17e. Loc.

Gulf Oil Corp. No. 9 State QQ, Sec. 18-19s-17e. Loc.

South Houma—Terrebonne Parish

Shell Pet. Corp. No. 2 Peters. Drlg. sh. 7,111 ft.

Raceland—La Fourche Parish

Amerada Pet. Corp. No. 1 Godchaux Sugars, Inc., Sec. 34-15s-19e. 18⅝-in. csg. 262 ft.; T.D. 11,312 ft.; 7-in. csg. 11,312 ft.; T.A.

Amerada Pet. Corp. et al No. 2 Godchaux, Sec. 34-15s-19e. Drlg. sdy. sh.& shlls. 6,661 ft.

South Roanoke—Jeff Davis Parish

Continental Oil Co. No. 2 Sturdivant, Sec. 36-10s-4w. Loc.

Union Sulphur Co. No. 2 T. R. S. Farms, Sec. 23-10s-4w. T.D. 10,954 ft.; (cor.). sdtrk. 9,075 ft.; drilled to 9,266 ft.; stuck D.S.; P.B. 8,860 ft.; sdtrkd.; T.D. 10,177 ft.; perf. csg. 10,108-20 ft.; I.P. 160 bbls. dist.; 15/64-in. bttm-hole. ck.

St. Martinsville—St. Martin Parish

Continental Oil Co. No. 1 Standard of Kans., Sec. 13-10s-6e. R.U.

Starks—Calcasieu Parish

J. R. Turnbull et al No. 6 Industrial Lbr Co., Sec. 30-9s-12w. T.D. 1,929 ft.; T.A.

Sweet Lake—Cameron Parish

Pure Oil Co. No. 1 Stanolind O. & G. Coffee lse., Sec. 12-13s-8w. Perf. csg. 7,112-28 ft.; comp.; for gas well.

Valentine—La Fourche Parish

Pan American Prod. Co. No. 2-A Community, Sec. 58-17s-20e. T.D. 9,629 ft.; tried to blow out; P.B. 7,983 ft.; sdtkd.; 8,020 ft.; drlg. sh. 8,828 ft.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co. No. 3 Buras Lve. Bd., Sec. 23-21s-30e. Driving piling.

Tide Water Asso. Oil Co. No. 9 Manhattan Land & Fruit Co., Sec. 26-21s-30e. 10¾-in. csg. 2,457 ft.; top salt 5,505 ft.; T.D. 5,565 ft.; sdtrkd. 4,647 ft.; top salt 5,603 ft.; P.B. 3,725 ft.; sdtrkd. 3,807 ft.; drlg. sh. 5,180 ft.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 1 Fontenot-Deshotels, Sec. 44-3s-2e. Drk.

Continental Oil Co. No. 1 Fontenot Ludean, Sec. 45-3s-2e. Drlg. sh. 4,020 ft.

Continental Oil Co. No. 3 Piere McDaniel, Sec. 44-3s-2e. T.D. 8,970 ft.; run 6-in. csg.

Continental Oil Co. No. 2 Petre, Sec. 44-3s-2e. T.D. 9,050 ft.; run csg.

Continental Oil Co. No. 2 Vidrine, Sec. 34-3s-2e. Drk.

Texas Co. No. 2 fee, Sec. 27-3s-2e. T.D 8,988 ft.; 6⅝-in. csg. 8,958 ft.; I.P. 240 B.P.D.; 10/64-in. ck.

Vinton—Calcasieu Parish

J. M. Donald et al No. 1 Gordon, Benchenstein-Flynn, Sec. 34-10s-12w. T.D. 1,000 ft.; W.O.C.

C. A. Richardson et al No. 1 Vincent, Sec. 34-10s-12w. T.D. 2,249 ft.; 5-in. csg. 2,200 ft.

West Gueydan—Vermilion Parish

Magnolia Pet. Co. No. 1 Adam, Comier, Sec. 5-12s-2w. T.D. 7,720 ft.; abd.

West Lake Verret—St. Martin Parish

Shell Pet. Corp. No. 2 Jeanerette, Sec. 14-14s-12e. T.D. 8,057 ft.; sd. S.O.; top sd. 8,046 ft.; making D.S.T.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 4 Calcasieu Natl. Bnk., Sec. 12-9s-6w. Drk.
Union Sulphur Co. No. 2 Osmon, Sec. 7 9s-5w. Drlg. sh. 7,212 ft.
Union Sulphur Co. No. 1 A. H. Thomas, Sec. 12-9s-6w. Drlg. sh.&L. 9,598 ft.

S. LOUISIANA WILDCATS

Acadia Parish

Tennark, Inc., No. 1 C. J. Freeland, Sec. 64-7s-2e. T.D. 8,502½ ft.; abd.
T. T. Tolson et al No. 1 J. Turner, Sec. 25-7s-1e. Loc.
Tri Parish Drillers, Inc., No. 1 Paul Stag, Sec. 4-7s-1w. Drk.

Assumption Parish

Humble O. & R. Co. No. 1 Milliken & Farewell Co., Inc., Sec. 79-14s-14e. 13⅜-in. csg. 2,978 ft.; drlg. sh.&sd. 9,474 ft.

Calcasieu Parish

David B. MacDaniel No. 2 Sch. Ld., Sec. 16-9s-7w. 15½-in. csg. 46 ft.; 10¾-in. csg. 1,299 ft.; T.D. 7,890 ft.; S.D.

Cameron Parish

Humble O. & R. Co. No. 1 Cameron Parish Sch. Ld., Sec. 16-12s-6w. Drlg. sh. 1,936 ft.
Superior Oil Co. et al No. 1 Delmer, Sec. 32-14s-8w (core test). Drlg. sh. 4,912 ft.

Iberia Parish

Texas Co. No. 1 Petit Anse, Sec. 59-13s-6e. Drlg. sd. 2,220 ft.
Texas Co. No. 2-B Vermilion Bay, Twp. 16s-5e. T.D. 9,667 ft.; fsg.

Iberville Parish

California Co. No. 1 Schwing Lbr. Co., Sec. 96-10s-10e. 20-in. csg. 177 ft.; T. D. 8,505 ft.; run 9⅝-in. csg.
Shell Pet. Corp. No. 1 Natalbany Lbr. Co., Sec. 18-9s-2e. Drlg. sh. 2,630 ft.

La Fourche Parish

Texas Co. No. 1 L.L.&E. Golden Meadows, Sec. 77-19s-21e. Drlg. sd. 8,514 ft.
Texas Co. No. 1 State-Catfish Lake, Sec. 77-19s-21e. 18⅝-in. csg. 90 ft.; T.D. 8,205 ft.; D.S. stk.; P.B. 5,783 ft.; sdtrkd.; drlg. sdy. sh. 5,872 ft.; no report.

Orleans Parish

W. T. Burton No. 1 L.&N.R.R., Sec. 18-11s-15e. R.U.
W. T. Burton No. 3 L.&N.R.R., Sec. 25-11s-14e. Loc.
W. T. Burton No. 1-B R. E. E. de Montluzin, Sec. 1-10s-13e. Drk.
W. T. Burton No. 1 State-Lake Pontchartrain, Twp. 10s-13e. T.D. 8,367 ft.; P.B. 7,775 ft.; sdtrkd. at 7,959 ft.; T. D. 8,165 ft.; 9⅝-in. csg. 8,185 ft.; T.D. 8,241 ft.; tstd. S.W.; D.S.T. 8,135-8,241 ft.; T.D. 11,149 ft.; cutting and pulling stk. D.S.

Plaquemines Parish

Texas Co. No. 1 L.L.&E. Bastian Bay, Sec. 43-20s-28e. Drlg. sdy. sh. 7,110 ft.

St. Bernard Parish

Gulf Ref. Co. No. 4-State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,161 ft.; drlg. sdy. sh. 10,265 ft.
Wm. Helis et al No. 1 Mereaux Munez, Sec. 34-12s-12e. Drlg. sh.&L. 8,625 ft.
Vendome Pet. Corp. No. 1 Kenilworth Plantation, Sec. 59-13s-14e. Drlg. sh. 9,720 ft.

St. Charles Parish

Texas Co. No. 1 L.L.&E. Paradis, Sec. 39-14s-20e. Drlg. sh. 7,804 ft.

St. James Parish

Shell Pet. Corp. No. 1 Shexnayder, Sec. 38-12s-15e. Cg. sh. 9,143 ft.

St. Martin Parish

Magnolia Pet. Co. No. 1 Mercelin, Sec. 8-10s-7e. R.U.
Texas Co. No. 11 St. Martin Ld. Co., Sec. 21-8s-7e. Top salt 8,904 ft.; T.D. 9,404 ft.; 7-in. csg. 8,912 ft.; P.B. 7,175 ft.; drld. out to bttm.; P.B. 8,080 ft.; perf. csg. 8,060-70 ft.; tstd. mud, gas and S.W.; sqzd. off perf.; perf. csg. 8,060-65 ft.; tested 38 stands oil and gas showing fresh wtr.; set screen and lnr.; pmpg.; showing est. 25 B.O.; 7 hrs.; bailing; S.O.&S.W.

St. Mary Parish

Phillips Pet. Co. No. 1 Whitney Natl. Bnk., Sec. 13-15s-12e. Drlg. sh. 1,015 ft.
J. Perry Scranton et al No. 1 Martinez, Sec. 133-15s-17e (core test). Drlg. sh. 1,176 ft.

St. Tammany Parish

A. P. Portas No. 1 W. C. Forbes, Sec. 33-7s-15e. Drk.

Terrebonne Parish

Texas Co. No. 1 Continental Ld. & Fur Co., Sec. 29-18s-14e. 18⅝-in. csg. 101 ft.; T.D. 10,039 ft.; P.B. 9,852 ft sdtrkd. 9,984 ft.; T.D. 12,483 ft.; stk. D.S.; shot pipe 11,540-11,050 ft.; unable to pull.
Texas Co. No. 2 State-Coon Point, Twp. 23s-14e. 13⅜-in. csg. 1,900 ft.; T.D. 2,851 ft.; driving piling.
Humble O. & R. Co. No. 5 Whitcomb, T. Choate Sur. Drlg. sh. 3,212 ft.

Cheek—Jefferson County

Geo. H. Echols No. 1 Beaumont Launch Club, C. Hillebrandt Sur. Drk.
Humble O. & R. Co. No. 1 Broussard Tr., C. Hillebrandt Sur. Loc.
Humble O. & R. Co. No. 1 E. K. Fallor, C. Hildebrandt Sur. T.D. 7,740 ft.; 5½-in. csg. 7,740 ft.; perf. 7,722-27 ft.; swbg. showing some oil and gas.

Cordele—Jackson County

H. J. Porter No. 1 Woussi, Peter White Sur. Loc.

Clam Lake—Jefferson County

Shell Pet. Corp. No. 1 McFaddin, S. A Pace Sur. T.D. 6,176 ft.; P.B. 2,405 ft.; perf. csg. 2,387-97 ft.; flwd. 173 bbls. 22-grav. oil; ¼-in. ck.

Hardin—Liberty County

Atlantic Ref. Co. No. 1 Rives, A. B. Hardin Sur. Loc.
Gulf Oil Corp. No. 4 Cessna, H. B. Johnston Sur. R.U.

Orange—Orange County

C. L. Brown No. 2-B Lutcher Moore Lbr. Co., J. Dyson Sur. Drlg. 5,386 ft. in sdtrkd. hole.
Continental Oil Co. No. 18 Chesson, Wm. Dyson Sur. Loc.
Gulf Oil Corp. No. 2 Laflour, Wm. Dyson Sur. Loc.
Gulf Oil Corp. No. 3 Orange Natl. Bnk., Wm. Dyson Sur. Drlg. rk. 5,530 ft.
Gulf Oil Corp. No. 10-A Winfree, Wm. Dyson Sur. Loc.
Hankamer et al No. 1 Conley, Wm. Dyson Sur. Drlg. sh. 2,986 ft.
Keown Oil Corp. No. 1 Lutcher Moore, Jas. Dyson Sur. Drlg. 5,036 ft.
John Mayo No. 1 M. J. Williams, J. Dyson Sur. Drk.
Union Prod. Co. No. 2 Lutcher Moore, J. Dyson Sur. Drlg. sh. 4,497 ft.

Port Neches—Orange County

Texas Co. No. 13 Kuhn, M. E. Hall Sur. R.U.

Ace—Polk County

Peyton Bros. No. 3-B Kirby West, G. S. Thomas Sur. Cg. sdy. sh. 7,666 ft.

Segno—Polk County

Gulf Oil Corp. No. 3-B Quinn, A. Morales Sur. Drlg. sh.&L. 3,212 ft.
Gulf Oil Corp. No. 5 Ragan, I.&G.N. Sur. No. 15. Loc.
Gulf Oil Corp. No. 1 Ragan, I.&G.N. Sur. No. 15. R.U.
Providence Oil Co. No. 2 Wing, I.&G.N. Sur. No. 14. T.D. 8,155 ft.; run csg.

Spurger—Tyler County

Republic Prod. Co. No. 16 fee, N. Hurd Sur. T.D. 7,703 ft.; comp.; no ga.
Republic Prod. Co. No. 17 fee, N. Hurd Sur. R.U.

Katy—Waller County

Stanolind O. & G. Co. No. 1 Cohee, Sec 109, H.&T.C. Sur. Drlg. sh.&shlls. 5,339 ft.

GULF COAST WILDCATS

Austin County

Crown Cent. Pet. Corp. et al No. 1 Huebner, Renkestolz Sur. Drlg. sdy. sh. 2,920 ft.

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Bryan Mound). M.I.M.
Humble O. & R. Co. No. 1 Yates, S Marsh Sur. 13⅜-in. csg. 2,419 ft.; drlg. sdy. sh. 5,927 ft.
Texas Co. No. 6 Freeport Sulphur Co., C. Ariola Sur. R.U.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.
L. D. Roberts No. 1 C. H. Lang, T.&N. O. Sur. No. 35. Drk.; (cor.).

Colorado County

Coyle & Concord No. 4-B Powell, L&G. N. Sur. No. 45. Top sd. 6,156 ft.; T.D. 6,158 ft.; 5½-in. csg. 6,004 ft.; perf. csg. 5,925-33 ft.; sqzd. with cmt.; W. O.C.
Mills Bennett Prod. Co. No. 1 J. M. Truchard, Ed Curbit Sur. 13⅜-in. csg. 968 ft.

Fort Bend County

Geo. Echols No. 1 Smith, Moses Shipman Sur. Spd.
N. W. Hunter No. 1 Lighau, B.B.B.&C. Sur. (north flank Big Creek). Drlg. sh. 5,560 ft.

Galveston County

Sun Oil Co. No. 2 Cade, A. Dickson Sur. Drlg. sh. 878 ft.

Harris County

H. H. Givens No. 2 F. K. Adone, David Middleton Sur. Drk.

Jefferson County

I. E. Harwell No. 1 State, Gulf of Mexico, T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.
Humble O. & R. Co. No. 13-B McFaddin-State, Sec. 8. 10¾-in. csg. 2,758 ft.; T.D. 5,859 ft.; D.S. stk.; backed off at 3,688 ft.; P.B. 4,220 ft.; sdtrkd.; drlg. sh. 5,420 ft.

Matagorda County

Maja Oil Co. No. 1 Robbins, A. Sheppard Sur. R.U.
Sun Oil Co. No. 1 Cavallin, Theo. F. Koch subd., John Duncan Sur. T.D. 8,502 ft.; rng. 9⅝-in. csg.; cores.

Montgomery County

Deep South Pet. Co. No. 1-A Foster Lbr. Co., Pryor Bryan Sur. Loc.
H. A. Pennington et al No. 1 F. L. Banker, L. M. H. Washington Sur. S.D. 1,033 ft.
I. Smith et al No. 1 J. V. Scott, F. A. B. Wheeler Sur. S.D. 3,623 ft.

Orange County

Sun Oil Co. No. 1 Lutcher-Moore Lbr. Co., B. Johnson Sur. T.D. 7,867 ft.; P.B.; sdtrkd.; 7-in. csg. 9,402 ft.; T.D. 9,705 ft.; D.S. stk.; P.B. 8,354 ft.; sdtrkd.; T.D. 9,664 ft.; P.B. 8,900 ft.; drld. to 9,020 ft.; perf. csg. 8,995-9,010 ft.; tstg.; flwg. est. 6 B.F.P.H.; ¼-in. ck., 10% S.W., 25% B.S., and 65% 40-grav. oil.

San Jacinto County

J. W. Frazier No. 1 Annie Smith, J. D. Martinez Sur. No. 10. M.I.M.

Tyler County

J. C. Bonham No. 1 Southwestern Lbr. Co. Loc.

Waller County

Providence Oil Corp. No. 1 Ida Lee Muske, Jas. Perry Sur. 10¾-in. csg. 808 ft.; drlg. sh. 6,357 ft.

Washington County

Mount Selman Oil Co. No. 1 Fritz Fuelberg, John Lightfoot Sur. R.U.

Wharton County

R. B. Fields No. 1 Barker, John Huff Lge. (Boling dome deep test). Drlg. sh. 4,787 ft.

S. W. TEXAS WILDCATS

Atascosa County

R. C. Stanley No. 1 Schumann, Simon Malone Sur. No. 1069. T.D. 1,722 ft.; perf. csg. 1,650-75 ft.; perf. csg. 1,654-76 ft.; flwd. fresh wtr.; S.I.O.; S.D. prep. to reperf. csg.

Bell County

M. M. Gordon No. 1 Steele, Oliver T. Tyler Sur. S.D. 1,201 ft.
G. P. Shelton et al No. 1 Nelson, Michael Griffin Sur. S.D. 1,160 ft.

Bexar County

H. G. Krumm No. 1 Kempf, Samuel McCollough, Jr., Sur. 54. T.D. 770 ft.; S.D.
Charles Schreiner No. 1 McCloskey, L. Desague Sur. No. 134. 7-in. csg. 710 ft.; tstg. at 1,400 ft.
David Stiles No. 1 Minna Sherrer, Jos Antonio de la Garza Sur. T.D. 1,077 ft.; moving in csg.
Joe Wagner et al No. 1 Florence Lamm, Manuel De Luna Sur. 3. S.D. 700 ft.

Blanco County

D. M. Johnston No. 1 Glasscock, W. W. McDonald Sur. No. 50. 10-in. csg. 150 ft.; T.D. 1,005 ft.; abd.
E. L. Nixon No. 2 Crist, John McClenechen Sur. No. 94. S.D. 210 ft.

Brooks County

Humble O. & R. Co. No. 3 McGill Bros., Ygnacios Rivas La Blanca gr. T.D. 4,728 ft.; run electrical survey.
Southern Minerals Corp. No. 1 Proctor, Fel Furrias Farm & Garden Tracts. O.W.D.D.; T.D. 6,028 ft.; drlg. sh. 7,481 ft.

Caldwell County

S. T. Dudley et al No. 1 Becker, L. L. Joseph Sur. T.D. 713 ft. chk.; 7-in. csg. 685 ft.; T.D. 1,117 ft.; Edw. L.; P.B. to test Austin chk.; S.D.

Comal County

O. W. Killam No. 1 Gruene, Henry Foster Sur. Drlg. L. 820 ft.

De Witt County

Richardson et al No. 1 W. D. McCurdy, John Hunt Sur. T.D. 150 ft.

Duval County

Ark. Fuel Oil Co. and Taylor Ref. Co. No. 1 Hernandez, F. Hernandez Sur. No. 56. T.D. 5,515 ft.; abd.
J. W. Cosner et al No. 1 Cantu, Geraro Briones Sur. Drlg. 636 ft.
Goldrus Drlg. Co. et al No. 1 Society for the Propagation of Faith, Pedro de la Zerda Sur., Sec. 7. Cg. sh. 4,010 ft.
Gravis and Doran No. 1 Parr, San Andres gr., 1 mi. N of Sweden field. Cg. sh. 4,879 ft.
Frank Gravis No. 3 Schallert, Seale, Morris & Seale Sur. No. 2550. T.D. 3,168 ft.; P.B. 1,800 ft.
Hamill & Smith No. 1 Perez, Cordente Hrs. R.U.
Interstate Minerals, Inc., No. 1 Brooker, B.S.&F. Sur. No. 85. Cg. sh. 2,650 ft.
Porter and Blanchard No. 1 Yates, John Gray Sur. Loc.
S.K.&C. et al No. 3 Welder, Nathaniel Tinsley Sur. T.D. 3,190 ft.; abd.
Transwestern Oil Co. No. 16 Duval Co. Rnh. Co., Pilar Martinez Sur. M.I.M.
W. A. Wagner No. 1 D. J. Weikel, John H. Gibson Sur. No. 497. R.U. and S.D.

Frio County

Hickock & Reynolds No. 1 San Antonio Joint Stock Ld. Bnk. Cg. L. 3,535 ft.

Goliad County

Steinberge Pet. Corp. No. 1 Albrecht, T. Hancock Sur. T.D. 5,313 ft.; 5½-in. csg. 5,313 ft.; perf. csg. 5,238-44

TEXAS

Week Ending January 28

GULF COAST FIELDS

Hastings Field—Brazoria County

Humble O. & R. Co. No. 2 Lerew, C. W. Groos Sur., Sec. 38. Loc.
Stanolind O. & G. Co. No. 2-C Cecil Brown, W. H. Snyder Sur. Drk.

Old Ocean—Brazoria County

Commerce Oil Co. No. 1 S. M. Patterson, Polly & Chance Sur. 9⅝-in. csg. 7,000 ft.; run electrical cg. survey; T. D. 10,500 ft.; perf. csg. 10,250-75 ft., 10,160-80 ft.; tstd. S.W.
Harrison & Abercrombie No. 3 Armstrong Plantation, Polley & Chance Sur. drlg. sh. 9,369 ft.
Harris & Abercrombie No. 4 Armstrong, Polly & Chance Sur. T.D. 10,670 ft.; run electrical survey.
Harrison & Abercrombie No. 6 Bernard River Ld. & Dev. Co., C. Breen Sur. Loc.
Harrison & Abercrombie No. 3 Chenault, C. Breen Sur. Drlg. sd., sh.&L. 10,164 ft.; no report.
Harrison & Abercrombie No. 1 Lola Buck, Polley & Chance Sur. Drlg. sh. 6,439 ft.
Sun Oil Co. No. 1 Campbell, Chas. Breen Sur. T.D. 10,400 ft.; perf. csg. 10,052-86 ft.; tstg.

Cedar Point—Chambers County

Standard Oil Co. of Texas et al No. 56-94 State. Dredge channel.

Seabreeze—Chambers County

Sun Oil Co. No. 2 Barrow, A. Ybarbo Sur. R.U.
Sun Oil Co. No. 1 Pipkin, W. M. Mays Sur. No. 104. R.U.

West Columbia

Texas Co. No. 30 Abrams, G. Tennille Sur. Drlg. sh.&L. 5,336 ft.

League City—Galveston County

Geo. Echols No. 2 J. H. Ross, Perry & Austin Sur. 10¾-in. csg. 2,550 ft.; drlg. sh. 7,475 ft.
Gulfboard Oil Corp. et al No. 1 Ross-Stewart, Perry & Austin Sur. 10¾-in. csg. 3,100 ft.; drlg. sh. 8,616 ft.
Midstates Oil Co. No. 2-A Maco Stewart, Perry & Austin Sur. Drlg. sh. 3,020 ft.
Phillips Pet. Co. No. 1 Brittnacher, S. F. Austin Sur. Drlg. sh. 4,719 ft.
Phillips Pet. Co. No. 1 J. C. Ott, S. F. Austin Sur. Cd. O.S. 7,070-9,110 ft.; drlg. sh. 9,178 ft.
Phillips Pet. Co. No. 1 Dr. Patton, S. F. Austin Sur. T.D. 10,535 ft.; run elec. survey.
Phillips Pet. Co. No. 1 Stewart, Title Guaranty, S. F. Austin Sur. Cg. oil sd. 9,082 ft.; T. sd. 9,072 ft.
West Prod. Co. No. 1 fee, Lot 2, Blk. 5, Perry & Austin Sur. Loc.

Bammel—Harris County

Hamil & Smith No. 1 Majorwitz, W.C.R. R. Sur. No. 10, Blk. 4. T.D. 7,006 ft.; abd.
H. M. Harrell et al No. 1 John Ehrhardt, W. P. Ketchum Sur. Loc.

Clear Lake—Harris County

Humble O. & R. Co. No. 3 Hutcheson, Wm. Dobie Sur. Loc.
Humble O. & R. Co. No. 3-C Humble-West fee, Geo. B. McKinstry Sur. Cg. O.S. 5,922 ft.

Clinton—Harris County

Stanolind O. & G. Co. No. 2 Edwards, Reels & Trobough Sur. Drk.
Stanolind O. & G. Co. No. 1-B Oates, Reels & Trobough Sur. Drlg. sh. 2,715 ft.

Eureka—Harris County

Jack Frazier No. 1 W. T. Helberg, H Reinerman Sur. R.U.
Jack Frazier No. 3 Helberg, J. Reiner man Sur. Drlg. sh. 2,636 ft.
Housh & Thompson No. 1 Helberg et al, H. Reinerman Sur. Drlg. sh. 2,830 ft.
Houston Oil Co. No. 3 Helberg & Lackner, J. Reinerman Sur. Spd.
Houston Oil Co. No. 2 D. Lackner, H. Reinerman Sur. Loc.

Fairbanks—Harris County

E. M. Hailey No. 1 Albert Brown, J. Clarkson Sur. Drlg. sh. 4,936 ft.
Housh & Thompson No. 2 Yerkes, Sam Lewis Sur. Cd. sd. 6,812-35 ft.; comp.; no ga.
Union Prod. Co. No. 2 Warneke, Sam Lewis Sur. Drlg. sh. 4,312 ft.

Friendswood—Harris County

Humble O. & R. Co. No. 1 J. L. Jones, Perry & Austin Sur. Drk.
Humble O. & R. Co. No. 3 Settegast, T. Choate Sur. Drk.
Humble O. & R. Co. No. 1 E. E. Watson. Drk.
Humble O. & R. Co. No. 3-B West, Luke Hemenway Sur. Drlg. sh. 5,045 ft.
Humble O. & R. Co. No. 4-B West, Luke Hemenway Sur. Drlg. sh. 3,686 ft.

ft.; pulling tbg.; cmt. job gave way; drlg. out cmt.; perf. csg. 4,804-07 ft., 4,811-13 ft., and 4,829-32 ft.; tstd. gas and S.W.; S.I.

Gonzales County

Otton Elder No. 1 Wilkinson, Russell Ward Sur. S.D. 396 ft.
Hochheim Dev. Trust No. 1 Dubose, E. G. Coffman Sur. 10-in. csg. 37 ft.; S.D. 1,170 ft.
A. L. Mitchell and L. W. Sorrell No. 1 A. I. Culpepper. Drlg. 3,026 ft.

Guadalupe County

Frank Glenn No. 1 Appling, Harriet Cottle Sur. No. 14. T.D. 2,218 ft.; tstg. 2,-130-37 ft.; 7-in. csg. 1,960 ft.; R.U. to pmp.
John Hueners et al No. 1 Bauer, R. E. Brown Sur. T.D. 1,462 ft.; abd.
Joseph Holefield No. 1 Claud Brodnax, John King Sur. T.D. 2,231 ft.; swbd. dry.
E. A. Weyel No. 1 Schraffel, R. B. White Sur. Drlg. sh. 410 ft.
R. A. Williams No. 1 Weber, Guadalupe Torres Sur. T.D. 1,483 ft. (cor.); 4½-in. csg. 1,468 ft.; S.D.

Hidalgo County

Pan American Prod. Co. No. 1 J. De la Vina, Vicente Hinojosa gr. Cg. sh. 7,-378 ft.

Jim Hogg County

Humble O. & R. Co. No. 6 Kelsey Bass, San Rafel gr. T.D. 4,729 ft.
Humble O. & R. Co. No. 1 Mestena O. & G. Co., Fowler & Rankin subd., Pallitos Blanco gr., R. G. Sars Sur. 16-in. csg. 70 ft.
Johnson & Robinson No. 1 Palacios, Mary Montgomery Sur. Cg. sh. 1,773 ft.

Jim Wells County

H. H. Howell et al No. 1 W. T. Wright, Ross M. Bridges Sur. Drlg. sh. 5,435 ft.
H. H. Howell et al No. 2 Wright, A.&M G.R.R. Sur. Drlg. 1,620 ft.
Magnolia Pet. Co. No. 1 Samuel Maun, Los Olmos y Loma Blanca gr. 7-in. csg. 6,314 ft.; drlg. sdy. sh. 6,722 ft.
W. H. Mathews No. 1 Frances Clark, Los Precenos gr. 10¾-in. csg. 617 ft. S.D. 4,068 ft.
Shell Pet. Corp. No. 1 C. H. Von Blucher, Lucinda Best Sur. T.D. 7,332 ft.; 7-in. csg. 7,332 ft.; perf. csg. 7,327-30 ft.; drlg. sd. 7,555 ft.; P.B. 7,565 ft.; perf. csg. 7,550-60 ft.; flwd. 6 bbls. dist.; 5 hrs.; ¼-in. ck.; T.P. 3,350 lbs.; C.P. 150 lbs.

Karnes County

Formax Oil Co. No. 1 Pflugger, Erasmus Seguin Sur. S.D. 1,969 ft.; T.A.

Kendall County

Carpenter No. 1 Seldensticker, A. Rodriquez Sur. No. 257. T.D. 571 ft.; abd.
H. N. Reid No. 1 Marguardt, J. Travuso Sur. No. 150½. S.D. 985 ft.

Kinney County

Bob Rose No. 2 Gaebler, Dolores Soto de Beales gr. S.D. 300 ft.

Kleberg County

Pure Oil Co. No. 1 State, Tr. No. 155, R.U.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. T.D. 6,404 ft.; acd.; R.U. to pmp.

Live Oak County

L. W. Stieren No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

Cities Service and Continental Oil Co. No. 1 Lowe, Henry Blood Sur. R.U.
Holbrook and O'Farrell No. 1 Miles, J. Poitevent Sur. Loc.
R. P. Holland et al No. 1 Gayle, B.S.& F. Sur. Drlg. sdy. sh. 1,236 ft.; no report.
Merle Morton No. 1 Valadez, Antonio De La Rosa, Porc 85. Loc.
R. M. Strum and Womack No. 1 Smith and Leischner, A. Zumwalt Sur. Drlg. sh. 586 ft.

Medina County

J. I. and J. W. Cromwell No. 1 Tschirhart, I. J. Rogers Sur. No. 18. Loc.
Victor Ziegler No. 1 Paul Haby, Wm. G. Still Sur. No. 1. S.D. 875 ft.; prep. to run csg.

Milam County

McGuyer and McCormick No. 1 Jacob Jose Leal Sur. T.D. 1,056 ft.

Nueces County

H. D. & H. Oil Co. No. 1 Wright, V. L. De Herrera gr. R.U.
Heep Oil Corp. et al No. 1 G. W. Smith Jose Vicente Lopez de Herrera gr 10¾-in. csg. 1,090 ft.; drlg. sh. 3,675 ft.
Henshaw Bros. No. 1 Countiss, V. L. De Herrera gr. Drk.
O. W. Killam No. 1 H. F. Hoegmeyer, E. L. Rincon de Corpus Christi gr. 10¾-in. csg. 1,076 ft.; T.D. 6,517 ft.; abd.
Republic Nat. Gas Co. No. 1 Robertson, Vincent Lopez de Herrera gr. 10-in. csg. 1,888 ft.
Seaboard Oil Co. No. 2 Wilson, Jose Vincente Lopez de Herrera Sur., Blk. 9. 13⅜-in. csg. 1,551 ft.; T.D. 5,037 ft.; 9⅝-in. csg. on bttm.; perf. csg. 4,994-97½ ft.; flwg. gas and wash wtr.
Union Prod. Co. No. 1 Minnie Brown (Agua Dulce area). T.D. 10,723 ft.; P. B. 6,885 ft.; perf. csg. 6,850 ft.; tstg tstd. S.W.; P.B. 5,800 ft.; to test.

Real County

Blakely Smith et al No. 1 Love Ranch, H.E.&W.T.R.R. Co. Sur. S.D. 310 ft.

Refugio County

Copano Oil Co. No. 1-C O'Connor, Timothy Hoyt Sur. R.U.
Coronado Corp. No. 7 Rooke, Aldrete 6¼ Lge. Cg. sh. 5,975 ft.
Coronado Corp. No. 8 Rooke, Aldrete 6¼ Lge. Drlg. sh. 5,667 ft.
Phillips Pet. Co. et al No. 1 Emilie Paveleck, Aldrete 6¼ Lge. T.D. 6,525 ft.; cmtd. csg. to test 6,312-31 ft.

San Patricio County

Culton et al No. 1 McCampbell, Peter Mahoney Sur. R.U.
Nueces Royalty Co. No. 1 Harries, J. Smith Sur. Drlg. sh. 3,700 ft.

Starr County

Rhinehart and Bowman No. 1 Bowman, J. C. McCarty Sur. M.I.M.
Sun Oil Co. No. 4 McKinney, A. J. Smith Sur. No. 240. T.D. 4,875 ft.; making D.S.T.
Sun Oil Co. No. 1-B Montalvo, Los Retachez gr. Drlg. sh. 3,230 ft.
Sun Oil Co. No. 1 Olivarez, C.C.S.D.&R. G.N.G. Sur. Drlg. 2,437 ft.

Victoria County

H. L. Edwards No. 1 Strobe, J. M. Cobarrubias Sur. T.D. 5,165 ft.; cmtd. open hole with cmt.; set 347 ft. of 7-in. csg.; drld. out cmt. to 2,991 ft.; prep. to perf. csg.

Webb County

Rodney DeLang No. 1 Jesus Vela Cuellar, Jr., Sur. 134. S.D. 2,449 ft.

Williamson County

L. B. Burnette, Jr., Tr., No. 1 D. C. Reed, E. Leichtle Sur. S.D. 1,045 ft.

Zapata County

C. H. Lewis et al No. 1 Flores, Charco De La India gr. S.D. 2,343 ft.

EAST TEXAS

(Border Counties)

Hansson County

F. H. Barnwell No. 1 Smith, A. P. Hope Sur. Cg. 2,830 ft.; D.S.T. 2,280 ft. tstd dry; ran 5-in. csg. 2,300 ft.
W. S. King No. 1 Taylor, Martin Sur S.D. 3,180 ft.

Marion County—Rodessa

Ark.-La. Gas Co. No. 2 Belcher, A. D. S. Coy Sur. R.U.
Ark.-La. Gas Co. No. 1 E. Crawford, A D. S. Coy Sur. Set 5½-in. csg. 6,097 ft.; perf. 6,070-95 ft.; comp.; 158 B.P. D.; ¼-in. ck.; T.P. 25 lbs.; C.P. 725 lbs.; T.D. 6,098 ft.
Gulf Prod. Co. No. 2 Blake, J. N. Jackson Sur. Set 5½-in. csg. 5,975 ft.; tstg. 5,990 ft.
G. Scott Hammond No. 1 W. S. Ford, C Grayson Sur. 9⅝-in. csg. 1,262 ft.; T. D. 6,099 ft.; tstd. est. 1,000,000 cu. ft. gas and 14 bbls. dist. per day; ¼-in. ck.; T.&C.P. 680 lbs.; W.O.
Hollandsworth Drlg. Co. No. 2 Hurst, SW cor. lse., J. Hanks Sur. Set 5-in. csg. 6,053 ft.; T.D. 6,073 ft.; comp.; 20 B.P.H.; ⅝-in. ck.; T.P. 170 lbs.; C.P. 1,400 lbs.
Shell Pet. Corp. No. 2 Whelan, Thos Gillespie Sur. 5½-in. csg.; T.D. 5,992 ft.; csg. split 3,790 ft.; sqzd. off; perf. 5,970-83 ft.; comp.; 105 B.P.D.; 5/32-in. ck.; T.P. 250 lbs.; C.P. 600 lbs.
Texas Co. No. 3 Chatten, Wm. Meyers Sur. Set 9⅝-in. csg. 2,106 ft.; 7-in. csg. 5,967 ft.; T.D. 5,988 ft.; W.O.C.

Marion County—Other

Tom Bell No. 1 Moseley, D. Lane Sur. Swbd. some oil; plg. tbg. 2,200 ft.
Capps Bros. Lbr. Co. No. 2 Stiles, Wall Sur. T.D. 2,394 ft.; swbd. dry; shot with 2 qts. nitro at 2,334 ft.; tstd. dry; S.D. 2,394 ft.
S. L. Fulton et al No. 1 Burks, G. Coor Sur. Spdg.

Sabine County

Hugo Allen No. 1 Brooks, Isaac Low Sur. S.D. 5,885 ft.; flows ½ to 3 bbls. 41-grav. oil and goes dead; C.P. 500 lbs.; will attempt to comp. as gas well.

San Augustine County

Superior Oil Co. et al No. 1 Long Bell Lbr. Co., S.P.R.R. Sur. 10¾-in. csg. 440 ft.; T.D. 5,102 ft.; S.D.

WEST TEXAS WILDCATS

Andrews County

Atlantic and Standard No. 1-B Cowden, Sec. 1, Blk. 14, T.&P. Sur. U.R. 300 ft.; drlg. 3,700 ft.
Honolulu Oil Corp. No. 1-18 J. E. Parker, Sec. 18, Blk. A-44, P.S.L. Sur. Drlg. 4,725 ft.
Richmond Drlg. Co. No. 1 Bryant-Link, Sec. 7, Blk. 48, P.S.L. Sur. Drlg. 3,-800 ft.
Rogers & Rogers No. 1-B University, Sec. 20, Blk. 9, Univ. Sur. S.D.O. 4,-431 ft.; no shows.
J. W. Tripplehorn No. 1 M. A. Thornberry, Sec. 2, Blk. 42-A. Tstg. 5 to 10 B.O.P.D.; 4,468 ft.; pulling tbg. 4,476 ft. prep. D.D. 4,476 ft.

Cochran County

T. G. Shaw No. 1 Carrie S. Dean, Lge. 94. Cg. 4,935 ft.; S.S.O.

Coke County

Barnett Pet. Co. No. 1 J. R. Mims, Sec. 39, Blk. W, T.&P. Sur. S.D. 1,861 ft.

Crane County

Great Western Prod. No. 1-B Univ., Sec. 5, Blk. 30, Univ. Sur. Drlg. 730 ft.
Gulf Oil Corp. No. 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. C.&P.
Magnolia Pet. Co. No. 12 W. P. Edwards, Sec. 12, Blk. 23-B, P.S.L. Sur. Drlg. 2,550 ft.
Magnolia Pet. Co. No. 1-18 University, Sec. 18, Blk. 30, Univ. Sur. Drlg. 1,-920 ft.
Standard O. of Texas No. 1-4 University, Sec. 4, Blk. 30, Univ. Sur. Drlg. 3,-092 ft.

Crockett County

Hanson & Anderson No. 1 W. T. Knoelke, Sec. 30, Blk. GG, H.E.&W.T. Sur. Spd. and S.D.
Humble No. 1 Ozona-Barnhart, Sec. 4, Blk. M-N, G.S.&F. Sur. Drlg. 1,440 ft.

Culberson County

Harry Niehaus No. 1 Caldwell, Blk. 109, Sec. 13, P.S.L. Sur. S.D.R. 3,395 ft.
Quito Oil Co. No. 1 Cameron Lbr. Co., Sec. 24, Blk. 81, P.S.L. Sur. S.D.R 945 ft.

Dawson County

Daw-Tex. Oil No. 1 J. E. Neely, Sec. 28, Blk. 35, T.&P. Sur. Drlg. 4,015 ft.

Dickens County

Bond D. Jones No. 1 Ford et al, I.&G.N. Sur. W.O. csg. 3,508 ft.
Humble O. & R. Co. No. 1 Matador Ld. & Cattle Co., Sec. 26, Blk. 1, Shock & Arnold Sur.; 6,000-ft. test. S.D.R. 4,-981 ft.

Ector County

M.B.K. Drlg. Co. No. 1 J. M. Gist, Sec. 9, Blk. 42, T.&P. Sur. Prep. shoot 4, 259 ft.
R. R. Rhodes No. 1 J. L. Johnson, Sec. 43, Blk. 42, T.&P. Sur. Loc.

El Paso County

Tri-State Oil Co. No. 1 Kinkel, S.D. 3,-571 ft.

Garza County

Gulf Oil Corp. No. 1 Swanson, Sec. 25, Blk. 2, H.&G.N. Sur. Flwd. 148 B.O. in 9 hrs.; P.B. depth of 7,400 ft.; P.B. 6,821 ft.; tstd. S.W.; P.B. 6,134 ft.; tstg.; drld. out to 6,857 ft.; prep. perf. and test.

Hockley County

S. W. Richardson No. 1 A. E. Coe, Lbr. 53, Lge. 40, Maverick C.S.L. Sur. R. U.R.

Howard County

T. G. Shaw No. 1 Wilkerson. Drlg. 3,-632 ft.
T. G. Shaw No. 1-D Wilkerson, Sec. 19, Blk. 34, T.&P. Sur. Drlg. 90 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ Sec. 34, Blk. 74, Twp. 6. Shutting off wtr. 5,306 ft.
Haymon Krupp No. 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.&P. Sur. W.O.C. 5,365 ft.

Irion County

Clyde Crabb No. 1 W. M. Boelke, Tom Green C.S.L. Sur. Drlg. 475 ft.
J. W. Ellis No. 1 Sol Mayer, Sec. 240; Blk. 1, T.&P. Sur.; 2,100-ft. test. Loc.

Jeff Davis Parish

H. D. Wilcox No. 2 Jones-Coffield, Sec. 308, Blk. 4, H.&T.C. Sur. Drlg. 620 ft. last report.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., Sec. 151, H.E.&W.T. Sur. W.O.C. 4,-450 ft.

Martin County

T. G. Shaw No. 1 Wilkerson, Sec. 35-A, B.&C. Sur. Pulling on stk. D.P. at 3,-605 ft.

Pecos County

G. T. Abell et al No. 1 Baldwin Est Sec. 24, Blk. 9, H.&G.N. Sur. D.&A. 2,500 ft.
J. R. Bell No. 1-C Gulf-Shearer, Sec 11, Blk. 10, H.&G.N. Sur. D.&A. 1,-567 ft.
Childress Royalty No. 1 Humble-Shearer Sec. 103, Blk. 10, H.&G.N. Sur. D.&A. 1,545 ft.
Ben Dansby No. 1 L. C. Lessenich, Sec. 45, Blk. 9, H.&G.N. Sur. Loc.
O. E. Schade No. 1 Neville, Sec. 72, Blk. 194, G.C.&S.C. Sur.; 2,500-ft. test Prep. drill plug 2,753 ft.
O. E. Schade No. 1 Otis Garrett, Sec 59½, Blk. 8, H.&G.N. Sur. Drlg. 1,-030 ft.
Thomason Prod. Co. No. 1 Notions, Sec 1, Blk. 105, W. P. Howard Sur. U.R 1,050 ft.; T.D. 1,620 ft.
S. Thompson No. 1 Elsinore Cattle Co Sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. by whipstk. 6,890 ft.
J. C. Trees No. 1 fee, Sec. 63, Blk. 5 H.&G.N. Sur. Drlg. 90 ft.

Reeves County

Artie Baker No. 1 J. W. Grider, Sec. 31 Blk. 58, P.S.L. Sur. Lowering 8-in. 402 ft.

Schleicher County

Lone Star Gas Co. No. 1 Bert Page, Sec. 30, Blk. L, G.H.&S.A. Sur. Drlg. 2,-005 ft.
Lone Star Gasoline Co. No. 2 Bert Page, Sec. 46, Blk. L, G.H.&S.A. Sur. Drlg. 5,330 ft.

Scurry County

Coffield & Guthrie No. 1 First Natl. Bk., Snyder. Sec. 29, Blk. 97, H.&T.C. Sur. Drlg. 460 ft.
Forest Dev. Co. No. 1 J. J. Koonsman, Sec. 217, Blk. 2, H.&T.C. Sur. Drlg. 4, 540 ft.

Tom Green County

Southern Cross No. 1 Upton & Upton, Sec. 20, Blk. A, A.B.&M. Sur. Loc.
Spinner No. 1 Reed, Mason Ferry Ranch Sur. W.O.C.; cave 4,948 ft.
Tom Green Oil Co. No. 1 Schreiber, A. Krending Sur. No. 1663. R.U. spdr.

Upton County

White & Wilson No. 1 Webb, Sec. 176, Blk. 1, C.C.S.D.&R.G.N.G. Sur. S.D.R. 715 ft.

Ward County

Robt. E. Mitchell No. 1 Allen, Sec. 7, Blk. 32, H.&T.C. Sur. P.B. 2,158 ft.; S.D.

Yoakum County

Honolulu Oil No. 10-695 R. Bennett, Sec 695. W.O.C. 2,415 ft.
Shell Pet. Corp. No. 1 C. A. Hudson, Sec. 834. Abd. loc.
Shell Pet. Corp. No. 1 J. M. Rutts, Sec. 743. P.B. 5,240 ft.; flwd. est. 40 B.O P.D.

TEXAS PANHANDLE

Collingsworth County

C. H. Mee and C. F. Anderson No. 1 V. K. McCaskill, Sec. 18, Blk. 16, H.&G. N. Sur. S.D. 490 ft.
White No. 1 Wischamper. Fsg. 2,310 ft.
Johnson No. 1 Taylor. S.D. 875 ft.

Deaf Smith County

Uscan No. 1 Farwell. S.D. 5,650 ft.

Donley County

Robinson No. 1 Kuteman, Sec. 88, Blk. 20, H.&G.N. Sur. Drlg. 4,192 ft.

Gray County

English No. 1 Eudy. S.D. 3,977 ft.
Products O. & G. Co. No. 1 Mason Davis, Sec. 23, Blk. 23-M, H.&G.N. Sur. Loc.
Trippiehorn No. 2 Webb, Sec. 12, Blk. A-9, H.&G.N. Sur. Drlg. 2,109 ft.

Lipscomb County

Darrouzett Oil Co. No. 1 Pugh, 1½ mi. S and 1 mi. W of Darrouzett. Drlg. 2,142 ft.
M. C. Tieman No. 1 Spandle, Sec. 626, Blk. 43, H.&T.C. Sur. S.D. 1,880 ft.

Potter County

Sinclair Prairie Oil Co. No. 1 Bush, Sec. 23, Blk. 6, B.S.&F. Sur., about 3 mi. N of Amarillo; 8,500-ft. test. S.D.R. 6,161 ft.

Roberts County

Whitlock No. 1 Cunningham. Drlg. 820 ft.

E. C. TEXAS WILDCATS

Cherokee County

C. C. Lanier No. 1 A. T. O'Neal, J. M. Procella Sur., 3 mi. E of Troup. S.D. 50 ft.

Falls County

Marshall Hayes No. 1 M. Murphy, J. M. Sanches Sur., 2 mi. NE of Lott. W.O. C. 1,190 ft.
R. L. Seastrunk No. 1 J. B. Trewitt, J. A. Manchaca Sur., 4 mi. E of Chilton. D.&A. 1,202 ft.

Grayson County

Denver P. & R. Co. No. 3 Cannon, E. Barnes Sur. No. 43, 1 mi. NW of Whitesboro. D.&A. 2,414 ft.
F. H. E. Oil No. 1 Graham, Chas. Quillen Sur., 1 mi. S of Collinsville. Drlg. 3,101 ft.
Jim McMurrey No. 1 Dr. T. J. Long, J. Garland Sur., 2 mi. S of Collinsville; 4,000-ft. test. S.D.O. 3,929 ft.

Henderson County

Tide Water-Seaboard-Humble No. 1 Sadie Starr McGee, R. Acosta Sur., 3½ mi. NE of Murchinson. Tstg. 8,090 ft. prep. comp. as gas-dist. well; tstg. 8,-216 ft.

Houston County

Cook & Mayo No. 1 C. A. Walling, B. Parker Sur., 4 mi. N of Grapeland. Drlg. 4,158 ft.
Leggett & Gossett No. 1 B. F. Gardner, J. Thorn Sur., just N of Weldon. M. I.M.

Kaufman County

Sam Knoerr No. 1 J. B. Hunter, P. Walker Sur., 5 mi. S of Terrell. Drk.

Lamar County

Dahl Bros. & Barr No. 2 McQuiston, R. Russell Sur., ½ mi. N of Paris. S.D 30 ft.

Limestone County

H. Gant No. 1 Vol De Long, P. Varela Sur., 1½ mi. NW of Thelma. Cg. 2,-857 ft.

McLennan County

C. E. Porter No. 1 B. D. Burchett, De la Vega Sur., just SE Waco. S.D. 695 ft.

Navarro County

Guy Sitton No. 1 J. P. Fortson, T. J. Chambers Sur., 4 mi. E of Alma. S.D. 628 ft.

Rains County

McKinley & Hastings No. 1 McTaggert, B. Milder Sur., 1 mi. W of Emory. S.D. 30 ft.

Red River County

Bentley-Sheppard & Stevens No. 1 So. Pine Lbr. Co., G. S. Parks Sur., 17 mi. N of Clarksville. S.D. 71 ft.

Rusk County

Ham & Baggs No. 1 A. Griffin, J. Randolph Sur., 4½ mi. NW of Mt. Enterprise. Drlg. 2,573 ft.

Smith County

J. H. Thomason No. 1 J. W. Bartlett, R. H. Stewart Sur., ½ mi. SE of Jamestown. S.D. 1,802 ft.; S.L.M.

Trinity County

C. D. Davis No. 1 J. D. Gibson, A. Donavan Sur., 4 mi. NE of Trinity. Gas blowout 148 ft.; S.D. 2,627 ft.

Upshur County

R. E. L. Johnson No. 1 Lizzie Parker, John B. Gay Sur. S.D. 2,817 ft.

Van Zandt County

F. A. Richardson No. 1-A B. C. Dodd, T. W. Hutchinson Sur., 2 mi. S of Grand Saline. S.D. 1,925 ft.

NORTH TEXAS WILDCATS

Archer County

Birdwell Oil Co. No. 31-B Oil Inv. Co., Lot 2, John Richards Sur., 5 mi. NW of Archer City; 4,200-ft. test. Drlg. 2,572 ft.

W. B. Omohundro No. 1 T. B. Wilson, Sec. 5, H.&T.C. Sur. Drlg. 3,470 ft.

Phillips Pet. Co. No. 1 J. B. Miller, Sec. 20, A.T.N.C.L. Sur. T.D. 4,006 ft.; O. W.D.D. S.O. to D.D. to 4,500 ft.; C.O. 3,800 ft.

L. Sikes No. 1 Walter Ford, T. M. Cecil Sur. A-982. T.D. 4,204 ft.; O.W.D.D. to 5,500 ft.; T.D. 4,437 ft.; B.S.S.O. 4,379-4,400 ft.; cmt. 5⅛-in. liner on bottom bailing mud; swabbing through tubing; 4,500 ft. oil in hole; tstg.

Westmount Oil Co. No. 7 T. J. Dempsey, Sec. 10, D.C.S.L. Sur., O.W.D.D. Perf. csg. 4,139-44 ft.; S.D.O.

Baylor County

British American Oil Prod. Co. No. 1 F. C. Green, T.&N.O. Sur., Sec. 215. Bkg. est. 20 B.O.P.D. from 2,550-2,600 ft.; 6⅝-in. 2,579 ft.; sat. L. 2,579-2,635 ft.; P.B. 2,635 ft.; est. 550 bbls. on pump; W.O.T.

British Am. O. P. Co. No. 1 J. E. Cope, Sec. 220, T.&N.O. Sur. Loc.

Clay County

L. T. Burns No. 1 Browning, Sec. 94, Belcher Sub.; 5,000-ft. test. Drlg. 1,372 ft.

Cooke County

H. W. Caudle No. 1 E. E. Walker, H. Gilman Sur.; 5,500-ft. test. Drlg. 3,190 ft.

Sinclair Prairie No. 3 J. M. Best, T. Toby Sur. A-1054. Drlg. 4,338 ft.

Whitfield et al No. 1 B. Voth, Z. D. Fulton A-1250 Sur. 6⅝-in. 1,595 ft.; 5⅞-in. 1,793 ft.; sat. L. 1,783-93 ft.; est. 500 bbls.; 10 hrs.; S.D. for test.

Foard County

Fleetwood & Kaufman No. 1 Prowers, H.&T.C. Sur., Blk. A. S.D.O. 5,005 ft.

Grayson County

O. L. McDougal No. 1 Jackson, H. Coffee Sur., Abst. 204; 4,000-ft. test. S.D.O.

J. H. McMurray No. 1 T. J. Long, Jas. Garland Sur. A-441. S.D.O. 3,929 ft.; ran Schlumberger; S.S.O. 2,595-2,601 ft.

Jack County

Pitzer & West No. 1 F. Warren, Sec. 2784, T.E.&L. Sur. Drlg. 2,190 ft.

Montague County

Benton & Holmes No. 1 J. Bowers, Sec. 55, M.E.P.&P. Sur. S.S.O. 2,887-95 ft.; 6⅝-in. 2,883 ft.; tstg. est. 500 to 600 bbls. per day.

Lobban et al No. 1 Henry Payne, Wm. Donoho Sur. A-178. Drlg. 1,920 ft.

Wichita County

F. S. Freeland No. 1 J. D. Cooper, H. Hastie A-92; 4,000-ft. test. Spd. and S.D.

Wise County

H. Jackson No. 1 F. Neeley, Blk. 29, Matagorda Co. Sch. Ld. Spd. and S.D

H. M. Muse No. 1 F. F. Kaker, Blk. 16, Matagorda Co. Sch. Lds. Pits.

Wilbarger County

Lawson & Leavell No. 16 W. T. Waggoner A, Sec. 109, H.&T.C. Sur., Blk. 14. Matl. 3,500-ft. test. R.U.C.T.

Humble O. & R. Co. No. 1 T. J. Milner, Sec. 31, H.&T.C. Sur., Blk. 9; 3,000-ft. rotary test. Drlg. 1,895 ft.

Young County

Brader & Groves No. 1 J. L. Clark, Sec. 2, E.L.&R.R. Sur. 6⅝-in. 3,850 ft.; O.S. 3,850-60 ft.; est. 200 bbls.; tstg.

H. M. Leidecker No. 1 J. M. Nall, Sec 1997, T.E.&L. Sur. Drlg. 1,010 ft.

Long & Lupton No. 1 A. Crouch, I.&G N. Sur. A-1460. 6⅝-in. 3,865 ft.; sat L. 3,940-44 ft.; treating with acid; test wtr.; S.D.O.

Magnus & McLester No. 1 B. B. Teague, E. S. Colthrop Sur. A-1390. Drlg. 3,830 ft.

Pitzer-West No. 1 Robt. Bulloch, J. P Hume Sur., Abst. 140. 5⅞-in. 4,169 ft.; O.S. 4,338-39 ft.; tstg.; est. 800 bbls.

WEST CENTRAL TEXAS DISTRICT

Brown County

A. D. Bruce No. 1 L. J. Mauldin, Sec. 15, H.&T.C. Sur. Sp.&S.D.

Callahan County

Dobbs Oil Co. No. 1 Finley, Sec. 75, Bayland Orphans Home Ld. Fsg. tools 1,785 ft.

J. C. Jackson and Doug. Tomlingson, Jr., No. 1 T. J. Thompson, Sec. 30, B.B.B. &C. Sur. U.R. 1,825 ft.

Roeser & Pendleton No. 1 Chas. Yost, Sec. 18, Blk. 8, S.P. Sur. Drlg. 3,405 ft.

Coleman County

Arcadia Ref. Co. No. 1 W. R. Roberts D. J. Holt Sur. Rng. csg.; S.O. 3,102 ft.

E. E. Kirkpatrick No. 1 F. Nixon, Burnett C.S.L. Sur. Drlg. 2,665 ft.

Comanche County

Comanche O. & G. Co. No. 1 J. E. McGuire, C. Rockefeller Sur. No. 3. S.D. drill-stem test 2,630 ft.

O. L. Johnson No. 1 Mrs. W. Jones, Sec. 34, H.&T.C. Sur., Abst. 1610. Swbg. 7 B.O.P.D. 2,835 ft.

Loraine No. 1 Carlisle, Sec. 9, Blk. 2, H.&T.C. Sur. Drlg. 2,606 ft.

Eastland County

Dobbs Oil Co. No. 1 Greer, J. E. Hardy Sur., Ellenburger test. S.D. 1,738 ft.

Erath County

Wayne Chandler No. 1 Chandler, J. W. Moore Sur., Abst. 571. Drlg. 2,980 ft.

Collard No. 1 W. L. Payton, H. Pierson Sur. No. 1, Abst. 1105. S.D. 185 ft.

Fisher County

General Crude No. 1 M. M. Flores, Sec 212, Blk. 1, B.B.B.&C. Sur. Prep. cg. 3,167 ft.

Hamilton County

Wallace & Vickers No. 1 C. C. Lund, J. P. Bailey Sur. 51. Fsg. bailer 2,200 ft.

Haskell County

Sawyer Drlg. Co. No. 1 A. J. Rowland Est., Sec. 5, Blk. 3, H.&T.C. Sur., 15 mi. E of Stamford. Moving in spudder to re-test at 5,210 ft.

Hood County

Prince & Miller No. 1 J. H. Andrews, NW cor. of Geo. Sutherland Sur. S.D. 524 ft.

Jones County

Brown Eagle No. 1 Waterson, Andrews Sur. No. 191. T.D. 2,283 ft.; S.D.

Grover, Rose & Farrell No. 1 O. D. Swanson, Sec. 193, B.B.B.&C. Sur., 2 mi. NE of Avoca. U.R. 1,807 ft.; T.D. 2,880 ft.

Hedrick Oil Co. No. 1 S. T. Morrison, Sec. 137, Martinez Sur. Comp. 164 B.O.P.D. 2,150 ft.

J. H. Sproules No. 1 James Nichols, Sec. 47, Blk. 16, T.&P. Sur. Prep. test 1,780 ft.

Nolan County

Chas. E. Peddicord No. 1 Tipton, Sec. 43, Blk. 19, T.&P. Sur. S.D.O. 2,827 ft.

Union Oil Co. No. 1 J. D. Pepper, Sec. 51, Blk. 21, T.&P. Sur.; 5,000-ft. test. 6 mi. SW Sweetwater. Drlg. 4,110 ft.

Parker County

Brown-Gardner Bros. No. 1 Gilbert, T.& P. Sur., Abst. 1958. S.D. 2,200 ft.

Glen Rose No. 1 H. D. Groves, SW¼ Sec. 350, T.&P. Sur. Temp. abd. 685 ft.

Shackelford County

Joe DeGrazier No. 1 Harbough, E cen. part of county, Sec. 1563, T.E.&L. Sur. 4,500-ft. test. S.D. 3,894 ft.

Fox & Rudd No. 1 Shotwell, Sec. 59, B.A.L. Sur. Fsg. 1,632 ft.

R. H. Gordon and Frank Pethybridge No. 1 C. B. Snyder, 330 ft. fr. N and E lines, Sec. 38, L.A.L. Sur.; 4,500-ft. test. Est. 20 to 50 B.O.P.D.; T.D. 3,660 ft.; S.D. 4,293 ft.

Canadian Fields

(Continued from Page 84)

directors, Maj. A. H. L. Mellor, Windsor, Ontario; L. J. Auten, Ponoka, Alberta; B. D. Howatt, Fred Wailing, Charles Short, Wetaskiwin, Alberta.

On the Grease Creek structure west of Olds, Grease Creek-Northwest Co. No. 1, LSD 2, Section 13-29-7w5, is below 700 feet and planning to drill to the lime around 4,000 feet if necessary.

On the Clearwater structure, Altoba Exploration Co. No. 1, Section 31-34-9w4, has finished cementing and is testing production from a sand between 1,196 and 1,286 feet.

Border Fields

On the Bridge dome structure, southern Alberta, Anglo-Canadian No. 1 Milk River, LSD 10, Section 4-2-13w4, is below 2,335 feet with the Madison limestone expected around 2,500 feet.

In the Taber field, North Taber Royalties No. 1, LSD 7, Section 10-11-15w4, is below 2,500 feet. Noble Drilling Co. No. 1, LSD 14, Section 33-8-17w4, has equipment on the ground, and is waiting for official permit. Taber Consolidated Royalties, Ltd., incorporated under British Columbia charter, has finished cellar for No. 1 test in LSD 14, Section 12-11-15w4, and is moving equipment from Calgary.

Plains Petroleum Corp has completed trial shipments of crude from its No. 2 producer to the Huff refinery at Lethbridge. The crude is 27 gravity and used for blending with lighter oils.

West Petroleums of Toronto is preparing to resume seismological and geological work this spring on a 163,000-acre permit area in the northern part of the Blood Indian reserve near Lethbridge. Considerable work was done last season, covering 30,000 acres, by the Heiland Research Corp. of Denver; indicating a large structure with closure over 100 feet.

Crude encountered in the Moulton sand in the Yukon-Lundgren well in Montana close to the Alberta line approximates closely shows met in Kotop Oils No. 1 in LSD 1, Section 2-1-17w4, on the Alberta side. The Kotop showings in the Blairmore-Kootenay at 2,576 feet were 39.6 gravity while the main production in the Red Coulee field from the Vanalta sands around 2,475 feet, was a different type of crude.

Lloydminster Operations

In the Lloydminster field, Lloydminster Royalties No. 1, LSD 4, Section 36-49-1w4, encountered crude at 1,925 feet which rose 1,000 feet in the 10-inch casing. Bailing around 150 bbls. into a sump failed to lower the level. The 10-inch casing was set at 1,830 feet with 95 feet open hole, and some caving developed. The well has some gas showing 440 pounds pressure at 1,700 feet. This will be supplemented by booster gas from one of the Colony Oil & Gas Co. wells to flow the crude. Bailing indicated no water. Officers of the company estimate production around 250 to 300 bbls. a day of 18-gravity crude. The hole will be cleaned out, casing lowered and a definite production test made. The test was planned originally to drill 4,000 feet to the limestone and was largely financed by Franco Oils. The company is planning a systematic drilling program. Wells can be drilled in about six weeks at a cost of around $20,000.

Saskatchewan Drilling

In western Saskatchewan, Western Royalties, Ltd., of Calgary is planning to develop around 300,000 acres on the Box Elder structure, 20 miles southwest of Maple Creek. Immediate operations will include completion of Twin Provinces Oil & Gas Co. No. 1, LSD 6, Section 21-11-29w3, standing at 2,130 feet and drilling of a second test with rotary tools. No. 1 has a small gas production.

Ontario Operations

In the Warwick field, Lambton County, a test by Gerry Hussey and associates on the south end of the Thomas Westgate, Sr., farm, Lot 22, Concession 5, Warwick Township, got production high, around 390 feet, and after pumping several weeks is making around 32 bbls. a day of practically water-free oil. It is one of the best producers yet drilled. A second test is drilling on the northwest corner of the lease.

In the Bothwell shallow field, Kent County, production for 1938 iesstimated close to 58,000 bbls., an increase of approximately 8,600 bbls. over 1937 production. The increase is partly due to the reopening of old wells on some leases in the north end of Orford Township, south of the River Thames. The main field is in Zone Township, north of the Thames. Attempts were made during the year to extend the field to the east, and also west into the area southwest of Dresden, but only two wells showed oil, of which one was later abandoned on the failure of a shot.

In Harwich Township, Kent County, a shallow test for water drilled by Tom Longstreet on the William Gardiner farm developed a large shallow gas flow, which blew debris 100 feet into the air. The flow has been capped, pending arrangements for further development.

Rocky Mountain Runs

Production estimates for week ended January 28:

WYOMING

Salt Creek	15,100
Big Muddy	1,210
Badger Basin	160
Cody dome	50
Cole Creek	80
Dallas Derby	350
Dewey dome	10
Dutton Creek	40
Elk Basin	540
Frannie	1,470
Garland	1,960
Grass Creek	1,870
Hidden dome	60
Hudson	250
Iron Creek	10
Labarge	910
Lance Creek	11,930
Lost Soldier	1,900
Mahoney	410
Medicine Bow	2,270
Midway	30
Oregon Basin	1,300
Osage	780
Quealy dome	730
Rock River	2,410
Spindletop	40
Poison Spider	270
Teapot	10
Wertz	1,250
Total Wyoming	47,400

MONTANA

Border	110
Cat Creek	560
Cut Bank	8,280
Dry Creek	1,390
Kevin-Sunburst	3,630
Lake Basin	10
Pondera	670
Total Montana	14,650

COLORADO

Florence	170
Fort Collins and Wellington	330
Wilson Creek	310
Iles dome	2,370
Moffat	300
Orchard	20
Rangely	20
Tow Creek	130
Price	560
Total Colorado	4,210

NEW MEXICO

Cooper	4,170
Eaves	810
West Eunice	100
Eunice	21,830
Hardy	2,890
Hobbs	12,080
Jal	880
Langlie	4,440
Lynch	490
Lynn	810
Mattix	3,230
Monument	22,370
North Lynch	40
Penrose	5,490
Rhoades	140
Skaggs	210
Skelly	1,780
South Eunice	2,990
South Lovington	50
Vacuum	6,480
Artesia-Maljamar	8,380
Getty	100
Hogback	200
Rattlesnake	670
Table Mesa	90
Total New Mexico	100,720
Total Rocky Mountain region	166,980

Personal Paragraphs

SAM GRINSFELDER, who has been attached to the Dominguez field office of the Union Oil Co., has been made special representative of that company in Texas.

JOHN A. NICHOLS, JR., head of the land and lease department for the Texas Co. in the West Texas area; LEONARD C. THOMAS, head of the geological department, and L. F. SHIPLET, superintendent of production, along with the entire personnel of the production, engineering, accounting and warehouse departments of the company at Wink, Tex., have been moved to Midland, Tex., where their work will be consolidated with that of the company's land and geological forces.

ARTHUR B. FOSTER, independent producer of Houston, Tex., accompanied by Mrs. Foster, is enjoying a cruise in the Caribbean.

P. D. GROMMAN, JR., petroleum engineer for the Texas Co., has been transferred from the Wink, Tex., offices to the district office in Fort Worth, Tex.

S. V. GUERIN, independent operator of Tyler, Tex., was expected to return from Honduras this week. Mr. Guerin was in Honduras for the past several months looking after gold mine interests.

JACK DEARING, formerly field superintendent for R. H. Dearing & Sons, Dallas, Tex., has moved from Bryson, Tex., to Dallas and with his brother, HERMAN DEARING of Dallas, will manage the company's interests in North and East Texas.

M. L. GOSNEY has been elected treasurer of Sinclair Refining Co., principal operating subsidiary of Consolidated Oil Corp., succeeding the late J. Fletcher Farrell. Mr. Gosney has been with Sinclair since 1916 and was assistant treasurer for many years.

S. H. RUSSELL, drilling superintendent in charge of oil exploration for the Turkish Government, is on vacation in the United States. He formerly resided in Texas and is visiting friends in that state. When he returns to Turkey he will drill several deep tests with two new rotary rigs which the government recently purchased. The tests will be drilled near the Tigris River, 160 miles south of Iraq.

W. H. SHELLEY, district superintendent for the Shell Pipe Line Corp., Colorado, Tex., was in charge of arrangements when supervisors and main line station men last week held their first general get-together in Colorado. D. F. SEARS, of the St. Louis, Mo., office, was among company officials attending.

GEORGE D. SPERRY, of New York, engineer on the Colombian staff of South American Gulf Oil Co., which is building a 12-inch pipe line from the Barco concession to Covenas, was wounded by a poisoned arrow last week when his party was ambushed by Motilones Indians. Several Colombian workers were wounded in the attack. Mr. Sperry and the others injured were removed from the field camp by company airplane to the hospital in Barranquilla, where all are recovering.

JOHN W. VANTINE, awarded the "grand old man of the oil industry" medal at the International Petroleum Exposition in Tulsa last year, observed his eighty-second birthday at his home in Bradford, Pa., Tuesday of this week. The day was made the occasion of a dinner in his home.

J. K. WELLS, Oklahoma City oil man, made no headway with a suggestion that Oklahoma might follow the example of Texas' new governor, W. Lee O'Daniel, and fix a limit of 35 cents on meals charged against the state by its employes. "No," said State Auditor Frank C. Carter, who believed the usual 35-cent meal afforded just a starter for a healthy appetite.

TOM A. DINES, oil man and banker, of Denver, Colo., will be the new Class A member on the board of the Kansas City Federal Reserve Bank, succeeding John Evans, who resigned to become the tenth district's representative on the federal advisory council. He was the only nominee, and the formal election will be held this month. Besides being president of the United States National Bank in Denver, Mr. Dines is a director of the American Petroleum Institute, president of the Utah Oil Refining Co., and has other oil interests. He is a director of the Colorado & Southern Railway and of the Denver Tramway Co. and is president of the board of trustees of the University of Denver.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Oklahoma produces about 183,000 bbls. of crude oil per day and Kansas about 8,400 bbls. per day.

Gulf Refining Co. distributes checks aggregating $24,000 among the crews of two ships that rescued a part of the crew of the tanker Oklahoma recently lost at sea. Twenty-seven of the crew drowned before they could be reached.

The Midway Sunset field in California produces 121,000 bbls. per day, the largest producing field in the world.

20 YEARS AGO

A Ranger district farm woman who rose from semi-poverty to the millionaire class by reason of oil says she intends to do something she has never been able to do: take a long railroad trip. She is going to travel to Oklahoma.

John T. Milliken, oil and mining millionaire and "richest man in the middle west" dies in St. Louis, Mo., age 66 years. He had sold most of his Mid-Continent holdings.

Two hundred and fifty wildcat rigs and drilling wells are listed in 44 Oklahoma counties.

A. C. Bedford, president of the Standard Oil Co. of New Jersey, is made a Chevalier of the Legion of Honor by the French Government in recognition of his war service.

10 YEARS AGO

After two open hearings on a bill broadening the powers of the Texas Railroad Commission in the matter of oil proration, it appears unlikely that it will pass the state legislature at this session.

Lea County, New Mexico, looks more than ever like an oil region as Marland Oil Co. No. 1 Lockhart, in the Eunice district, slops oil over the top of the casing. Gypsy Oil Co. has a 20,000,000 cu. ft. gasser and Skelly Oil Co. No. 1 Joyner is a 137-bbl. oil well in the county.

FRED W. JOHNSON, oil scout with the Standard Oil Co. of Louisiana, Shreveport, is the father of another son, James Woodard Johnson.

L. E. BRENKAMP, petroleum engineer with the Atlantic Refining Co., has been transferred from Wink, Tex., to the East Texas field.

H. L. J. HUNTER, of the Anglo-Persian Oil Co., Masjid-i-Suleiman, Persia, is touring North and West Texas, making a study of new production methods. He plans to return home in May.

LLOYD L. JORDAN has joined the staff of the Arkansas Board of Conservation as senior gas engineer. He formerly was associated with the Sinclair Prairie Oil Co. in the Mid-Continent and was more recently gas engineer with the Lion Oil Refining Co. of El Dorado, Ark.

HARRY H. MACK, general manager of production for the Sunray Oil Co., Tulsa, has been made a vice president and director. Mr. Mack has supervised most of the company's activities in the Mid-Continent, Gulf Coast, and California. In 1938 he superintended the drilling of 38 wells and only one was a failure.

GOV. PAYNE H. RATNER, of Kansas, has revived the Oil Advisory Committee to cooperate with the state Corporation Commission "in working toward a correction of the factors which have contributed to the general decline of the oil industry in the state." He appointed a committee of nine members with representation from producers, refiners and the stripper area.

HOWARD VAN ZANDT, land man for the Skelly Oil Co. in Houston, Tex., has resigned to enter the oil business for himself.

DON BOTHWELL, vice president of the Darby Petroleum Corp., was elected president of the Southern Hills Country Club, Tulsa, last Friday.

ANATONE SAFONOU, district geologist for the Ohio Oil Co. at Ardmore, Okla., has been transferred to Missouri. The Ardmore district office has been closed, but FRANK KING, scout, will remain in that area.

DON H. GEARHART has been made vice president in charge of sales for the Warren Refining & Chemical Co., Cleveland, Ohio. For the past three years he had been associated with the Cleveland Cooperative Stove Co. and before that he was advertising manager of the Peerless Motor Car Corp.

ERNEST C. MILLER has resigned as field service division representative of the Pennsylvania Grade Crude Oil Association for New England and Canada, to enter the employ of the West Penn Oil Co., of Warren, Pa. He is succeeded by JAMES H. BEGLEY, who has been in the headquarters office in Oil City since joining the staff last summer.

MAJ. FREDERICK R. BURNHAM, explorer, author, and directing head of the Burnham Exploration Co., Los Angeles, Calif., has been elected president of the Southwest Museum, which has among its directors well-known oil men, including BEN R. MEYER, ALLAN C. BALCH, and DR. F. W. DODGE. Major Burnham served as a scout during the Apache uprisings in the United States and for the British in South Africa during the Boer War.

Resumes Career in Oil

Winthrop Rockefeller, fourth son of John D. Rockefeller, Jr., last week received the key award which the United States Chamber of Commerce gives annually to the man under 36 who demonstrates "outstanding civic service and achievement, personal character, and ability." Also he started to work in the foreign trade department of the Socony-Vacuum Oil Co., Inc., New York. The key award was in recognition of the effective way he served as executive vice chairman of the campaign committee for the Greater New York Fund in 1938. His entrance into service at 26 Broadway marks resumption of a career in the business of which his grandfather became a symbol.

WINTHROP ROCKEFELLER

This is not Winthrop Rockefeller's first experience in oil. Leaving Yale in 1934, he got a job with the Humble Oil & Refining Co. in Texas and for more than two years he worked first in the geophysical department, next as a roustabout in the maintenance gang and then as a roughneck on the drilling floor, besides studying technical phases of refining and sales promotion. He asked no favors and got none. After Humble he visited California and South American oil operations. Returning to New York, he worked in the Chase National Bank until January, 1938, when he turned his energies to the Greater New York Fund, which supplements private welfare and health agencies. Mr. Rockefeller was born May 1, 1912, and attended Loomis School before entering Yale.

HARRY C. MILLER, of Chicago, general manager of the telegraph and telephone division of the Pure Oil Co., is spending 10 days in Tulsa.

JAMES W. GERARD, of New York, former ambassador to Germany and one of the most extensively interested independent financial factors in the oil industry, has been discharged from hospital care necessitated by complications from pneumonia last summer.

L. W. PETREE, for the past seven years an oil and gas valuation engineer in the income tax unit at Washington, D. C., has been transferred to Wichita, Kans., effective February 1, to become resident field engineer in the Wichita office of the internal revenue agent in charge.

HERBERT LESLIE, formerly chief engineer for the Standard Oil Co. of Brazil, has assumed new duties at Rio de Janeiro as consulting engineer for the petroleum industry in that country. Mr. Leslie formerly served the Standard of New Jersey subsidiaries in Venezuela.

RICHARD FENTON, assistant executive vice president of the Oil Producers Agency of California for several years, has resigned to form a public relations counsel service in Los Angeles. He is succeeded by J. B. HUTCHINS, at one time a member of the geological department of Barnsdall Oil Co. in California.

ED H. MOORE, independent oil operator of Okmulgee, Okla., and Tulsa, and FRANK PHILLIPS, Bartlesville, Okla., head of the Phillips Petroleum Co., were made honorary directors of the Okmulgee Chamber of Commerce at the annual election in appreciation of generous contributions made by them to Okmulgee organizations during the past year.

SHIFTS: RUSSELL KELLY, land department Carter Oil Co., from Vandalia, Ill., to Shelbyville, Ill.; MAURICE WEBB, engineer, Warren Petroleum Co., from Harjo, Okla., to Monument, N. M.; BUELL SCOTT, producer, from Johnson, Kans., to Topeka, Kans.; J. A. BURNETT, president, Flathead Refining Co., from Kalispell, Mont.; to Spokane, Wash.; N. K. GLOVER, president, Patterson & Pape, from Corning, N. Y., to Ontario, N. Y.; R. G. WINDSOR, secretary, Universal Refineries, from Amarillo, Tex., to Pueblo, Colo.; GLEN N. WHITMAN, production department Phillips Petroleum Co., from Corpus Christi, Tex., to Morgan City, La.; T. G. LACKEY, Jones Associated Oil Co., from Wichita Falls, Tex., to Albuquerque, N. M.; MRS. JAMES P. O'DONNELL, producer, from Ranger, Tex., to Austin, Tex.; GUY I. McCRACKEN, party manager, Gulf Oil Co., from Eunice, La., to Houma, La.; JAMES B. HAMMON, producer, from New York, N. Y., to Mobile, Ala.; H. H. SCHWARZ, drilling contractor, from Little Rock, Ark., to Evansville, Ind.; ED SIBERTS, geologist, Kingwood Oil Co., from St. Elmo, Ill., to Effingham, Ill.; C. R. ROSS, drilling contractor, from Centralia, Ill., to Salem, Ill.; A. S. BAPTIE, engineer, Shell Oil Co., from Bakersfield, Calif., to Keene, Calif.; ALFRED H. McADOO, producer, from Alhambra, Calif., to Barstow, Calif.; CHARLES E. BRADFORD, geologist, the California Co., from Hays, Kans., to Great Bend, Kans.

ROBERT F. CORY, of the petroleum engineering department of the Texas Co., with offices in Los Angeles, and MISS HELEN D. ABROMSON, of Templeton, Calif., were married recently.

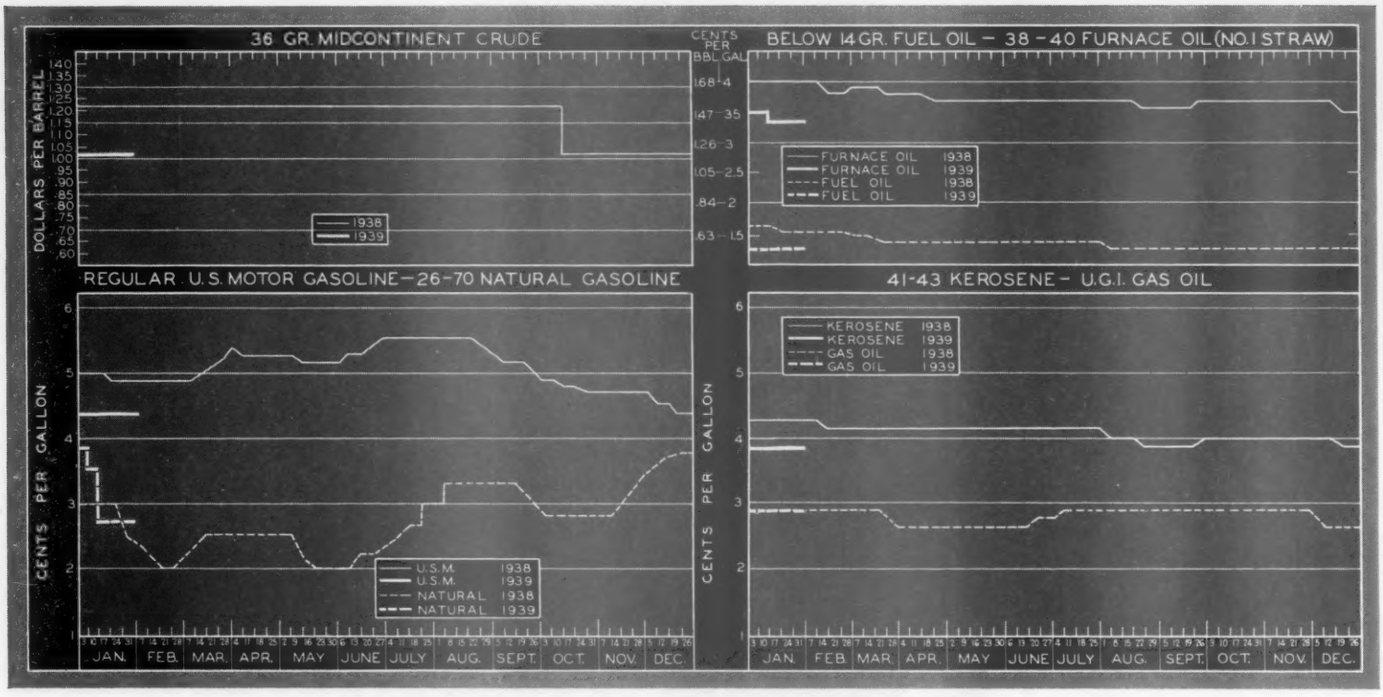
T. G. DELBRIDGE, of the Atlantic Refining Co. has been appointed chairman of the American Petroleum Institute's 1939 committee on testing methods and specifications, and T. B. RENDEL, of Shell Petroleum Corp., Wood River, Ill., chairman of the committee on motor fuel research. R. P. Anderson, of the Institute staff, is secretary of both committees.

J. A. THOMAS is superintendent and G. A. LEE assistant superintendent of the new division headquarters established by the Humble Pipe Line Co. in Midland, Tex., for the West Texas and Panhandle divisions. R. B. FOREMAN is chief clerk; F. B. WITT, chief dispatcher; E. T. CORBETT, chief gauger; P. D. PHILLIPS, JR., mechanical engineer; H. B. HENSLEY, civil engineer.

A. J. BRODERICK, of Broderick & Calvert, Fort Worth, Tex., independent operators, and Mrs. Broderick are on vacation in Miami, Fla.

WALTER C. TEAGLE experienced the thrill of seeing his black-and-white pointer, Norias Polly, win the derby stake in the Continental field trials at Thomasville, Ga., last week. Competition began in the championship stake with 25 dogs in the race for the $1,000 prize money and the Continental cup. Mr. Teagle, chairman of the board of the Standard Oil Co. of New Jersey, and W. S. FARISH, president, are on a hunting trip in eastern Georgia.

FRANK MORGAN, vice president of the Richfield Oil Corp., has been appointed chairman of the program committee to handle details of the spring meeting of the Pacific Coast district, Division of Production, American Petroleum Institute, to be held in Los Angeles April 11, 1939. He will be assisted by W. H. FARRAND, of the Texas Co.; WENDALL M. JONES, Petroleum Equipment Co.; PAUL E. LEHR, Shell Oil Co.; JOE ROBINSON, Union Oil Co.; J. H. SARGENT, Kettleman North Dome Association; F. R. SCHMIEDER, Shell Oil Co., and E. K. PARKS.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Gasoline Firmer in Group 3 Market

But Heating Oils Still in Trouble

By T. F. SMILEY

Gasoline was looking better in the Group 3 market this week—not enough to lift quotations, but creating a hopeful spirit. The naturals, which took a hard tumble three weeks ago, were crawling along painfully, with little indication of regaining their feet. Heating oils faced a little less discouraging prospect.

Brightening the Outlook

Contributing to the more cheerful tone in the motor fuel market were substantial purchases by large companies from small plants in need of quick outlets. At prevailing prices it is cheaper for some refiners to buy gasoline than to make it. Besides that advantage, this interrefinery buying helps to remove unwieldy stocks from the market. Closing down of plants which had been operating unprofitably has been a factor in reducing the quantity of material seeking a place to go.

Although the nation's gasoline stocks are around 7,000,000 bbls. lower than they were a year ago, the addition of 1,703,000 bbls. in the week ending January 14 did not help matters any. Neither does the fact that crude runs to stills are higher than they should be.

Retail markets have been growing more demoralized in territory served by Group 3 refiners, and the backwash from service station wars is having its effect on tankcar prices. The Ohio Oil Co. is putting into operation a "10-point profit plan for dealers," by which it hopes to mitigate evils which have developed in the dealer marketing plan. All but a few scattered stations of the company are leased. One feature of the plan seeks to establish "balanced selling," by which gasoline sales would be accompanied by proportionate sales of motor oil and other petroleum products, tires, tubes, batteries, etc., and lubrications.

Third-grade gasoline (62-octane and below), which for months has been a market football, was acquiring a better status this week. Offerings declined noticeably. Prices underwent little change.

Natural gasoline was lifeless. There was not quite enough demand to absorb current production, but the excess output had not reached such a volume as to force quotations lower in either Oklahoma or Texas. Plants which must ship their production every day seemed to be getting enough orders to keep them out of serious difficulty, but the larger manufacturers evidently preferred to hold their material rather than sell it at current quotations. They were displaying little interest in the spot market, devoting their attention primarily to contract customers.

Although informed observers do not look for higher natural gasoline prices until blending for next fall's motor fuel begins, some of them predict that the total business in 1939 will be entirely satisfactory. "The year we've just started," said one sales manager, "is going to parallel 1937 very closely, starting out indifferently and winding up fine." The 26-70 grade went to 4½ cents in October, 1937. A year later it was selling at 2¾, where it happens to be now.

Heating Oils Need Help

The heating oils were in need of help. A deceptive gust of wintry weather in northern territory prompted some Mid-Continent refiners to ship light fuels to the Minnesota region "in transit," taking what they regarded as an excellent chance of selling the material promptly. The cold snap was short-lived, and the cars standing on sidings had to be disposed of for what they would bring to avoid demurrage charges. That didn't stimulate the market any. Blizzard weather in the Midwest raised hopes in the furnace oil division again this week at the same time that impassable roads threatened to put a dent in gasoline gallonage.

Neutrals and bright stocks pursued the sickly way they have followed for months. Heavy industrial oil was offered less freely. Wax was buoyant.

Refined Oil Market Barometer

Low temperatures are causing new high records in furnace oil consumption in New England and improving the outlook in interior areas, where stocks have been moving slowly. Retail price wars, along with seasonal drop in gallonage and sales of crude below posted schedules, are factors in continued low tankcar prices of gasoline. Natural gasoline unsettled, with dull outlook.

MID-CONTINENT. Gasoline steadier. Heating oils weak. Natural gasoline soft.

EAST COAST. Fuel oil vigorous. Gasoline irregular, with scattered price-cutting.

GULF COAST. Fuel oils soft. General market quiet. Prices steady.

PENNSYLVANIA. Bright stocks stronger. Higher crude postings bolster gasoline prices.

CALIFORNIA. Export gasoline off; spot market unchanged. Diesel and furnace oils soft.

CHICAGO. Gasoline slightly firmer. Furnace oils slow. Heavy industrials holding.

Consumption of Fuel Oil Jumps as Winter Strikes East Coast

By H. STANLEY NORMAN

NEW YORK, Jan. 31.—Fuel oil consumption set new high records throughout the New England and North Atlantic seacoast sections last week, particularly during the last three days when temperatures tumbled to three-year lows.

Last week's temperature averages were the lowest for the winter in the heavy fuel oil consuming section north of Washington and the demands made on fuel oil suppliers reflected this condition to the maximum. Gas oil, distillate and residual fuel oil prices remained unchanged despite the bulge in demand. The unchanged price structure, however, was due largely to recent declines in the tanker charter rates applying to coastwise movement from primary Gulf Coast markets. Reductions in the transportation charges during the past three weeks or a month have permitted a greater net although tank-wagon and tankcar prices have held approximately unchanged since the early part of January.

The below normal temperatures did serve to stiffen the tank-wagon price structure in that cut price offerings were curtailed. Most sellers of No. 2 fuel oil are making deliveries in the metropolitan New York area at 6½ cents per gallon with 7 to 7½ cents ruling in the outlying districts. Temporary elimination of the cut price tank-wagon practices in the light fuel oil market was especially noticeable in the New England district and in up-state New York. Consumption was particularly heavy in the northern parts of the northeastern Atlantic district. Temperatures ranged well below zero for three or four days of the past week in northern New York and most of the New England states. For New York City and vicinity last week's temperatures were from 15 to 20 degrees below normal for the comparable period.

Barge deliveries of light fuel oils eased off slightly at the end of last week as a result of the lower tanker rates applying to Gulf Coast purchases. Barge deliveries of No. 2 fuel oil were reported in some quarters at a range of 3¾ to 3⅞ cents per gallon, which is off from an eighth to a quarter of a cent from preceding quotations. This development appears entirely confined to the barge market and is, therefore, restricted to volume business. A slump of 5 to 8 cents per barrel in the tanker charter rates applying to coastwise transportation from the Gulf to north of Hatteras points is directly responsible for the slump in barge delivery quotations. The same set of conditions applied to kerosene which was available from some New York plants at 4½ cents per gallon in barge quantities against 4⅝ cents asked two weeks ago. Heavy fuel oil prices are unchanged in all markets along the eastern coast. Bunker C fuel oil in New York is firm at 95 cents per barrel and the Gulf Coast market ranges from 67½ to 72½ cents, depending on specifications. Industrial fuel oil for shore plants delivery in the New York vicinity is priced generally at 2.65 to 2.85 cents per gallon in tank wagons, although some suppliers are quoting from 3 to 3⅛ cents. Consumption of the heavy fuels has advanced in tune with weather conditions and activity in factories now engaged in producing finished materials for the summer season.

Conditions which spurred fuel oil consumption to new highs for the winter last week had the opposite influence on motor fuel. Subzero temperatures in most of the area north of New York accompanied by a heavy blanket of snow in several sections reduced automobile operation to a minimum. Price cutting was reported at several up-state New York and New England points. Socony-Vacuum Oil Co., Inc., lowered divided dealer tank-wagon gasoline prices eight-tenths of a cent per gallon at New Haven January 26 bringing the market there on regular motor fuel to 7.5 cents.

The tankcar price in Buffalo and Rochester was reported shaded in several directions. Some suppliers were reported delivering 70-octane gasoline at 5½ to 5⅝ cents per gallon while 72-octane motor fuel was selling at 5⅞ to 6 cents in those localities.

The Boston gasoline market was reported slightly stronger last week than during the earlier part of January, but consumption was at a new low for the winter. Most suppliers are asking a minimum of 5⅞ cents for 65-octane gasoline, up an eighth from early January prices.

Kerosene and light fuel oils were also stronger in Boston. Refiners and distributors in the New England district are bullish in their tankcar price ideas at the moment and the consumption requirements are so heavy that current business is mostly at the high of the range. Most suppliers are asking 5 cents for kerosene in the Boston tankcar market and 4⅛ cents for No. 2 fuel oil.

The coastwise tanker charter market was only moderately active last week. Two boats were fixed at 20 cents for gasoline, 21 cents for kerosene and 22 cents for light fuel oil. The rates applicable to the two charters are from 6 to 8 cents per barrel lower than prevailed at the turn of the year. Two vessels were fixed for February loading on the Gulf Coast in foreign trade. One boat is to load gasoline for France and another for fuel oil to the continent.

The export market has failed to show much activity so far this year due partly to bartering arrangements worked out between Germany and Mexico and Italy and Mexico. The same two European countries extensively dependent on exterior supplies of petroleum have been successful in negotiating with Rumania on a part cash and part barter basis for additional supplies during 1939. Movement of petroleum from the United States to contract customers in the United Kingdom and France has shown little change so far this year although the latter country is also drawing more material from Rumania than during the same period in 1938. It is too early to determine whether Rumania can continue to supply its assumed increased export trade and meet domestic requirements at the same time. There is also the probable increase in consumption in European countries which may offset the heavier purchases in Rumania.

Wax exports have been particularly brisk from New York and New Orleans during the past two weeks. Foreign trade movement of wax coupled with normal domestic demand has gradually pushed the market into higher ground. Most suppliers are now quoting 2.45 cents per pound on crude scale wax. Western Pennsylvania refiners have been leaders in pushing up the wax market and last week extended their market advances to bright stock. Pennsylvania refiners generally elevated their bright stock prices a half to a cent per gallon, although some suppliers are clinging to the preceding quotation of 14 cents for 25-pourtest material. The advance of 9 to 12 cents per barrel in Pennsylvania crude prices

(Continued on Page 98)

A. P. I. Weekly Refinery Statistics

Week Ending January 28, 1939

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	503,000	17,960,000	11,003,000
Appalachian	85.9	113,000	3,199,000	788,000
Indiana, Illinois and Kentucky	89.5	433,000	12,591,000	6,725,000
Oklahoma, Kansas and Missouri	81.6	246,000	7,169,000	4,315,000
Inland Texas	50.3	112,000	1,859,000	1,916,000
Texas Gulf	89.5	780,000	10,566,000	9,613,000
Louisiana Gulf	97.3	129,000	2,517,000	1,739,000
North Louisiana and Arkansas	55.0	43,000	432,000	887,000
Rocky Mountains	54.2	52,000	1,526,000	681,000
California	90.0	464,000	14,500,000	98,422,000
Total reported	85.8	2,875,000	72,319,000	136,089,000
Estimated unreported	.....	360,000	4,960,000	3,260,000
*Estimated total	.....	3,235,000	77,279,000	139,349,000
*Estimated total previous week	.....	3,310,000	75,455,000	141,091,000
*January 29, 1938	.....	3,158,000	85,013,000	120,288,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending January 21, 1939	271,110,000 barrels
Week ending January 14, 1939	271,819,000 barrels
Week ending January 29, 1938	304,424,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of January 31, 1939

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline Tank-wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank-wag.
Chicago, Ill.	15.1	12.1	4.0	10.0
Decatur	15.1	12.6	4.0	10.0
Joliet	15.1	12.6	4.0	10.0
Peoria	15.1	13.1	4.0	10.0
Quincy	14.9	12.9	4.0	8.7
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	13.4	4.0	†9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	8.9
Minneapolis	16.0	14.5	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.0	5.0	10.3
Milwaukee	16.3	13.4	5.0	10.2
Detroit, Mich.	13.1	11.6	4.0	7.1
Grand Rapids	14.8	13.05	4.0	9.7
Saginaw	15.8	14.3	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	15.3	5.0	†9.5
South Bend	17.1	15.6	5.0	†9.0
Fargo, N. Dak.	16.7	15.2	4.0	11.6
Minot	18.0	16.5	4.0	12.9
Huron, S. Dak.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	11.9	4.0	7.5
St. Louis*	14.2	12.7	4.0	8.0
St. Joseph	14.4	11.2	4.0	9.3
Wichita, Kans.	13.9	10.6	4.0	7.3

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective November 1, 1938, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gallons, 9 cents; 100-149 gallons, 8 cents, 150 gallons and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex furnace oil, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex grade A, 1-399 gallons, 4.75 cents; 400 gallons and over 3.75 cents. Stanolex grade B, 1-799 gallons, 4.75 cents; 800 gallons and over, 3.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Cons. tank-car	Gasoline Dir. tank-wag.	Gasoline Inc. tax	Kero. tank-wag.
Atl'tic City, N. J.	10.9	12.7	4.0	8.0
Newark	10.9	12.7	4.0	8.0
Annapolis, Md.	12.85	14.35	5.0	9.5
Baltimore	12.25	13.75	5.0	8.5
Cumberland	13.65	16.15	5.0	10.0
Wash'g'n, D. C.	10.50	12.0	3.0	9.5
Danville, Va.	14.45	16.95	6.0	12.9
Norfolk	13.25	15.75	6.0	11.5
Petersburg	13.55	16.05	6.0	11.7
Richmond	13.55	16.05	6.0	11.7
Roanoke	14.75	17.25	6.0	11.0
Charles'n, W. Va.	14.05	16.55	6.0	12.6
Parkersburg	13.35	14.85	6.0	11.2
Wheeling	14.35	15.75	6.0	12.2
Charlotte, N. C.	15.65	18.15	7.0	12.1
Hickory	16.15	18.65	7.0	12.5
Mt. Airy	15.95	18.45	7.0	12.3
Raleigh	15.25	17.75	7.0	11.6
Salisbury	15.75	18.25	7.0	12.2
Charleston, S. C.	14.25	16.75	7.0	10.6
Columbia	15.25	17.25	7.0	11.6
Spartanburg	15.95	18.45	7.0	12.4

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective December 19, 1938, the following policy for the sale of motor fuel by tank-wagon to commercial consumers in North Carolina was instituted: Single deliveries of 50 to 149 gallons, inclusive, 1 cent over posted consumer tankcar price; single deliveries of 150 gallons and over, .5 cent over posted consumer tankcar price; deliveries of less than 50 gallons, 6 cents above posted consumer tankcar price.

Effective December 16, 1938, the following policy for the sale of motor fuel by tank-wagon to commercial consumers in South Carolina was instituted: Single deliveries of 25 gallons to 149 gallons, inclusive, 1 cent over posted consumer tankcar price; single deliveries of 150 gallons and over, .5 cent over posted consumer tankcar price; deliveries of less than 25 gallons at one time, 6 cents above posted consumer tankcar price.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline Cons'r. tank-wag.	Gasoline Net dlr.	Gasoline Inc. tax	Kero. tank-wag.
Atlanta	18.5	15.5	7.0	8.5
Augusta	19.5	16.5	7.0	10.0
Macon	18.0	15.0	7.0	11.0
Savannah	19.0	16.0	7.0	8.0
Birm'ham, Ala.	21.0	18.0	8.0	8.5
Mobile	21.0	18.0	9.0	8.5
Montgomery	21.0	19.0	9.0	10.5
Jackson, Miss.	17.5	14.5	7.0	9.5
Vicksburg	19.0	16.0	7.0	9.0
Jacksonville, Fla.	20.0	17.0	8.0	8.0
Miami	19.5	16.5	8.0	8.0
Pensacola	21.0	18.0	9.0	8.0
Tampa	19.0	16.0	8.0	8.0
Lexington, Ky.	19.0	16.0	6.0	10.0
Covington	17.5	14.5	6.0	9.5
Louisville	17.5	14.5	6.0	9.0
Paducah	18.5	15.5	6.0	9.0

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price. Effective June 4, 1938, 2 cents per gallon discount eliminated from all kerosene markets in Mississippi, Alabama, Georgia, and Florida, markets being reduced correspondingly to a net basis.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Inc. tax	Kero. tank-wag.
Denver, Colo.	15.5	5.0	11.5
Grand Junction	16.0	5.0	15.0
Pueblo	14.5	5.0	10.5
Casper, Wyo.	17.0	5.0	11.5
Cheyenne	15.0	5.0	13.0
Billings, Mont.	18.0	6.0	13.0
Butte	19.5	6.0	15.5
Great Falls	18.0	6.0	15.5
Helena	20.0	6.0	15.5
Salt Lake City, Utah	16.0	5.0	16.0
Boise, Idaho	19.0	6.0	18.0
Twin Falls	19.5	6.0	18.0
Albuquerque, N. M.	16.0	*6.5	10.0

*Includes city tax of .5 cent.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank-wag. con'r.	Gasoline Di-vided dlr.	Gasoline Inc. tax	Kero. tank-wag.
Ohio points	16.0	15.0	5.0	*13.0

*Includes state tax of 1 cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank-wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	21.5	22.5	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	13.5
Spokane	23.0	24.0	6.0	16.5
Tacoma	20.0	21.0	6.0	13.5

*Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Cons. tank-car	Gasoline Dlr. tank-wag.	Gasoline Inc. tax	Kero. tank-wag.
Albany	11.75	13.8	5.0	8.0
*Met. N. Y.:				
Manhat., Bronx	11.75	12.9	5.0	8.0
Staten Island	11.75	12.9	5.0	8.0
Queens, B'klyn.	11.75	12.9	5.0	8.0
Buffalo	12.0	12.5	5.0	7.5
Rochester	12.5	13.5	5.0	7.5
Syracuse	12.4	13.5	5.0	8.5
Boston, Mass.	10.5	12.5	4.0	7.0
Portland, Me.	11.75	14.0	5.0	7.5
Manch'ter, N. H.	12.3	14.5	5.0	8.0
Burlington, Vt.	12.3	14.7	5.0	9.0
Springf'd., Mass.	11.0	13.0	4.0	7.5
Worcester	11.0	13.0	4.0	7.5
Hartford, Conn.	10.9	12.9	4.0	6.5
New Haven	10.8	11.5	4.0	6.0
Providence, R. I.	10.5	12.5	4.0	7.0

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point; monthly purchases under 5,000 gallons, pay divided dealer tank-wagon prices at delivery point.

Pennsylvania, Delaware, and Part of New England

ATLANTIC REFINING CO.

	Gasoline Cons. tank-car	Gasoline Dir. tank-wag.	Gasoline Inc. tax	Kero. tank-wag.
Philadelphia, Pa.	12.0	13.0	5.0	10.0
Pittsburgh	13.0	15.0	5.0	10.5
Allentown	12.75	14.25	5.0	10.5
Erie	13.0	14.5	5.0	10.0
Scranton	13.0	14.5	5.0	10.5
Altoona	13.0	15.0	5.0	10.5
Dover, Del.	...	13.5	5.0	10.5
Wilmington	...	12.5	5.0	9.75

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract, less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Cons. tank-car	Gasoline Dir. tank-wag.	Gasoline Inc. tax	Kero. tank-wag.
N. Orleans, La.	16.75	19.25	*10.0	†11.0
Baton Rouge	14.75	17.25	8.0	‡10.5
Alexandria	14.75	17.25	8.0	‡12.5
Lafayette	15.00	17.50	8.0	‡12.5
Lake Charles	14.75	17.25	8.0	‡12.5
Shreveport	13.50	16.00	8.0	‡11.0
Knoxville, Tenn.	18.00	20.50	8.0	14.5
Memphis	16.00	18.50	8.0	12.5
Chattanooga	17.50	20.00	8.0	14.0
Nashville	17.00	19.50	8.0	12.0
Bristol	18.25	17.00	8.0	14.5

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective Dec. 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gallons, consumer tankcar plus 2 cents per gallon; 50 to 199 gallons, consumer tankcar plus 1 cent per gallon; 200 gallons and over, consumer tankcar plus .5 cent per gallon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank-wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank-wag.
Omaha	17.5	16.0	6.0	10.3
McCook	17.5	16.0	6.0	10.0
Norfolk	17.9	14.9	6.0	10.7
North Platte	18.3	15.4	6.0	11.0
Scottsbluff	17.0	14.9	6.0	11.2

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Inc. tax	Kero. tank-wag.
Muskogee, Okla.	13.5	5.0	7.0
Oklahoma City	11.5	5.0	6.0
Tulsa	10.0	5.0	6.0
Fort Smith, Ark.	13.25	5.0	7.5
Little Rock	16.75	7.5	9.0
Texarkana	12.0	5.0	8.0

Texas

	Gasoline Tank-wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Dallas, Tex.	13.0	15.0	5.0	8.0
Fort Worth	15.0	17.0	5.0	8.0
Houston	14.5	19.0	5.0	8.0
San Antonio	14.0	18.0	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero. tank-wag.
Halifax, N. S.	23.5	10.0	17.5
St. John, N. B.	23.5	10.0	17.5
Montreal, Que.	20.0	6.0	14.5
Toronto, Ont.	21.0	6.0	15.5
Hamilton, Ont.	21.0	6.0	15.5
Winnipeg, Man.	27.5	7.0	20.7
Brandon, Man.	28.1	7.0	22.9
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	26.5	7.0	21.5
Calgary, Alta.	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. of Louisiana January 14 reduced dealer tank-wagon gasoline 2 cents in Nashville; January 21, restored previous price. Previous publication that consumer tankcar gasoline had been reduced 2 cents in Bristol January 14 was an error. Only the dealer tank-wagon price was reduced.

Standard Oil Co. (Kentucky) reduced consumer tank-wagon and net dealer gasoline in Atlanta 1 cent January 14 and 1 cent January 19; reduced consumer tank-wagon and net dealer gasoline .5 cent in Miami January 11.

Socony-Vacuum Oil Co., Inc., January 26 reduced tank-wagon dealer gasoline .8 cent in New Haven; January 30, reduced consumer tankcar gasoline .2 cent in Rochester.

Standard Oil Co. (Indiana) January 6 reduced tank-wagon kerosene 1.5 cents in Mankato; January 24, reduced tank-wagon kerosene 1.9 cents in Detroit. January 16, reduced dealer gasoline .5 cent in St. Louis; January 24, reduced dealer gasoline .4 cent in St. Louis.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of January 31, 1939

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below	.03¼	.03⅜
63-66 octane	.03⅜	.04
67-69 octane	.04⅛	.04¼
70-72 octane (regular)	.04⅜	.04½
60-62 400 grades:		
62 octane and below	.03¼	.03½
63-66 octane	.03⅜	.04
67-69 octane	.04⅛	.04¼
70-72 octane (regular)	.04⅜	.04⅝
64-66 375	.04	.04½
68-70 360	.05	.05½

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.03¼	.03⅜
63-66 octane	.03⅜	.04
67-69 octane	.04⅛	.04¼
70-72 octane (regular)	.04⅜	.04⅝
60-62 400	.03⅜	.03⅝
64-66 375	.04	.04½

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04	.04¼
63-66 octane	.04¼	.04½
67-69 octane	.04½	.04¾
70-72 octane (regular)	.04⅞	.05⅛

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below		.04
67-69 octane	.05	.05⅛

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.03½	.03¾
63-66 octane	.03⅞	.04⅛
67-69 octane	.04⅛	.04⅜
70-72 octane	.04⅜	.04⅝
60-62 400 grades:		
62 octane and below	.03½	.03¾
63-66 octane	.03⅞	.04⅛
67-69 octane	.04⅛	.04⅜
70-72 octane	.04¾	.04⅝
64-66 375	.04	.04¼
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.04¼	.04⅜
65 octane		.06¼
68-70 octane		.06⅓

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06½	.08
58-60 400, 65 oct. and higher	.07½	.09

EAST COAST (domestic)—

U. S. Motor, 65 and above:		
*New York (Bayonne)	.06	.06¼
Philadelphia	.06	.06¼
Baltimore	.06	.06¼
Charleston, S. C.	.06½	.06¾

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane		.04¼
60-64.9	.04½	.04⅝
65 octane and higher		.04⅝
68-70		.05

Naphtha

PENNSYLVANIA (inland refineries)—

52-56 450 (blending)	.04¼	.04½

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.02¾
Grade 18-55		.03¼

NORTH TEXAS—

Grade 26-70		.02¾
Grade 18-55		.03¼

CALIFORNIA—

75-85 375-390	.06¼	.06¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.03⅛

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110-flash, 540-550 e.p.	.03¾	.03⅞
41-43 gr., 300-320 i.b.p., 110-125 flash, 500-520 e.p.	.04	.04¼
46-48 gr., 210-230 i.b.p., 480-max., e.p.	.04⅝	.04⅝

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅞	.04
42-44	.04⅛	.04¼

NORTH TEXAS—

41-43	.04	.04⅛

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04	.04⅝

ARKANSAS (Ark. and N. La. del.)—

41-43		.04½

PENNSYLVANIA (inland refineries)—

45	.04⅝	.04⅞
46	.04⅝	.05
47	.04⅞	.05⅛

CHICAGO (Based on Group 3)—

41-43	.03⅞	.04⅛
42-44	.04⅛	.04⅝

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04¾	.05¾

NEW YORK (Bayonne, N. J.)—

41-43	.04¾	.05

***GULF COAST (domestic)—**

41-43	.03¾	.04

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03⅝	.03¾
No. 1 prime white, 38-42	.03½	.03⅝
No. 1 straw, 38-40	.03⅜	.03½
No. 2 straw, 32-36	.03¼	.03⅜
No. 2 dark, 32-36	.03⅛	.03¼
No. 3 zero to 15, 28-32	.03	.03⅛
No. 3, 15 and above, 28-32	.02¾	.02⅞

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅝	.03¾
No. 1 straw, 38-40	.03½	.03⅝

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03⅜	.03⅝

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03⅝

CHICAGO (Based on Group 3)—

Range oil	.03⅝	.03¾
No. 1 prime white, 38-40	.03½	.03⅝
No. 1 straw, 38-40	.03⅜	.03½
No. 2 straw, 32-36	.03¼	.03⅜
No. 2 dark, 32-36	.03⅛	.03¼
No. 3, zero to 15, 28-32	.03	.03⅛
No. 3, 15 and above, 28-32	.02¾	.02⅞

NEW YORK (Bayonne, N. J.)—

*No. 1	.04½	.04⅝
*No. 2		.04
*No. 4		.04

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅞	.03⅛
No. 4, low pourpoint, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.90
No. 5, low pourpoint, 18-22	.70	.75
Below 14 fuel oil, industrial	.50	.60

NORTH TEXAS—

U.G.I. gas oil	.02⅞	.03⅛
No. 4, low pourpoint, 24-28	1.00	1.10
No. 5, low pourpoint, 18-22	.70	.75
Below 14 fuel oil, industrial	.50	.60

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02¾	.02⅞
No. 4, low pourpoint, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.95
No. 5, low pourpoint, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pourpoint, 10-16	.60	.70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (inland refineries)—

36-40	.03¾	.04⅛

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.15	1.35
24 plus Diesel, per bbl.	1.00	1.30
24 plus Diesel (bunkers)	1.15	1.50
12-16 (bunkers at tidewater)	.75	.90
10-16 (cargo lots)	.60	.80
12-17 (tankcars)	.50	.80
10-17 (high sulfur)	.45	.70
San Joaquin Valley:		
10-18 (tankcars)	.50	.80
24 plus Diesel, per bbl.	1.15	1.40
San Francisco:		
24 plus Diesel, per bbl.	1.40	1.45
24 plus Diesel (bunkers)	1.45	1.55
10-16 (bunkers)	.90	.95

GULF COAST—

No. 2 fuel		.03¼
43-47 Diesel		.03½
48-52 Diesel	.03½	.03⅝
53-57 Diesel	.03⅝	.03¾
Bunker C (bulk cargoes)		.70
Bunker C (bunkers)		.75

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¼
28-30 Diesel (lighterage 6¼c per bbl.)		1.75
28-30 Diesel (tankcars)	.04¼	.04½
Bunker C (to ocean-going ships in N. Y. Harbor)		.95
Industrial fuel (tankcars)	.03¾	.04

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.14¼	.16
150-160 D, 15-25	.13½	.15½
150-160 E, 15-25	.13	.15
100-110 D, 0-10		.14½
Steam refined:		
631 green (treated)		.12½
600 dark green (untreated)	.04½	.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pourpoint	.17	.17½
15 pour point	.16	.16½
20 pourpoint	.15	.15½
25 pourpoint	.14½	.15
Steam refined:		
600	.08	.08½
650	.10	.10½
600 Pennsylvania flash	.10½	.11
630 flash	.13½	.14
600 Warren E filtered	.12½	.13

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-6½		.13
400-3½		.14
100-2½ paraffin oil		.06
15-20 pourpoint:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.12½

GULF COAST—

Pale oils:		
200-3	.07	.07¼
300-3	.07½	.07¾
500-3½	.08½	.08¾
750-3½	.08⅝	.09½
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red oils:		
200-5-6	.07¼	.07½
300-5-6	.07¾	.07⅞
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-3½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pourpoint	.16	.16½
10 pourpoint	.15	.15½
15 pourpoint	.14	.14½
25 pourpoint	.13	.13½
200 vis. at 70° F., 3 color:		
Zero pourpoint	.18	.18½
10 pourpoint	.17	.17½
15 pourpoint	.16	.16½
25 pourpoint	.15	.15½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale		.0250

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0235	.0245
124-126 (a.m.p.) w.c. scale	.0235	.0245

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0375
125-127 (a.m.p.) wax		.0390
128-130 (a.m.p.) wax		.0400
130-132 (a.m.p.) wax		.0435
133-135 (a.m.p.) wax		.0465
135-137 (a.m.p.) wax		.0490
124-126 (a.m.p.) w.s.		.0230
124-126 (a.m.p.) y.s.		.0230
Petrolatum in barrels, carload lots:		
Dark green	.02	.02⅛
Amber	.02⅜	.02½
Extra amber	.02⅝	.02⅝
Lily white	.05½	.05¼
Snow white	.06¼	.06¼
Cream	.04⅛	.04¼

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.04⅜	.04½
60-62 400	.04⅜	.04½
61-63 390	.04½	.04⅝
64-66 375	.04½	.04⅝

LOS ANGELES—

U. S. Motor grades:		
55-65 octane	.04½	.04¾
65-69 octane	.04¾	.05
Above 69 octane	.05	.05½

KEROSENE

GULF COAST—

41-43 prime white	.03¾	.04
41-43 water white	.03¾	.04

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbls.)—

Cylinder stocks:		
600 Warren E	.15	.15½
600 S.R. unfiltered	.16	.16½
630 S.R. unfiltered	.17	.17½
600 flash, S.R.	.17	.17½
630 flash, S.R.	.20½	.21
Bright stocks:		
8 color	.16¼	.16½

NEUTRAL OIL

200-3 color	.21½	.22
150-3 color	.19½	.20

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.0375
125-127 a.m.p.		.0387
128-130 a.m.p.		.0412
133-135 a.m.p.		.0437
135-137 a.m.p.		.0455
Crude scale:		
124-126 w.s.	.0235	.0245
124-126 y.s.	.0235	.0245

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas (Oct. 11, 1938)* $1.10
Van, Tex. (Oct. 11, 1938)* ..... .93
Talco, Tex. (Oct. 11, 1938)* ..... .55
Rodessa, Tex. ..... See North Louisiana gravity schedule
Cass and Panola counties, Texas ..... See gravity schedule
Altus and Tipton† ..... See note below
Cayuga, Tex. (Oct. 12) ..... .81
Clay Creek, Tex. ..... .85

*Humble Oil & Refining Co. †Gulf Refining Co.

Altus and Tipton, Okla., starting at below 25 degrees at 71 cents, 2-cent spread to 40 degrees and above at $1.03. East Texas price met by all buyers posting prices. Talco price adopted by Talco Pipe Line on October 11. Cayuga posted by Tide Water Associated Oil Co. Clay Creek posted by Sun Oil Co.

Southwest Texas

Salt Flat, Darst Creek, Hilbig, Carroll, Clark and Zoboroski (Oct. 11, 1938)* ..... $ .96
Pettus (Oct. 11, 1938)* 1.29
Flour Bluff (Dec. 3, 1938)* 1.23
Darst Creek (Oct. 12, 1938)† ..... .96
Darst Creek and Bruner (Oct. 13, 1938)‡ ..... .96
Luling (Oct. 12, 1938)† ..... .87
Lytton Spings (Oct. 12, 1938)† ..... .99
Mirando (Oct. 12, 1938)† ..... .
Government Wells (Oct. 13, 1938) ..... See note below

*Humble Oil & Refining Co. †Magnolia Petroleum Co. Pettus price adopted by Atlantic Crude Oil Purchasing Co. ‡Gulf Refining Co.

Government Wells posted by Sun Oil Co. starts at 20 gravity, 77 cents, 3-cent spread to 24-24.9 at 89 cents.

Gulf Coast

Conroe, Tex. (Oct. 11, 1938)* $1.27
Black Bayou and White Castle, La. (Oct. 11, 1938)† ..... See note below
Gibson, La. (Oct. 11, 1938)† 1.04
Garden Island, La. (Oct. 12, 1938)‡ 1.24
Lafitte, La. (Oct. 12, 1938)‡ 1.04
Cleveland, Tex. (Oct. 12, 1938)¶ 1.14
Hardin, Tex. (Oct. 12, 1938)¶ 1.02
Tepetate, La. (Oct. 11, 1938)§ 1.03
Villa Platte, La. (Oct. 11, 1938)§ 1.03
Abbeville, La. (Jan. 1, 1939)§ ..... See note below
Bosco, La. (Dec. 3, 1938)‖ ..... .93
Creole, La. (Oct. 13, 1938)‖ ..... .96
Gueydan, Sweet Lake, and Louise, La. (Oct. 13, 1938)¶ ..... See note below
Vinton, Edgerly, Starks, Hackberry, Timbalier Bay, Quarantine Bay, and Grand Bay, La. (Oct. 13, 1938)** ..... .
Long Lake, Tex. (Oct. 13, 1938)** 1.08
Segno and Wing (Oct. 13, 1938)** ..... See note below
Livingston (Oct. 11, 1938)† 1.10
Gibson, La. (Oct. 11, 1938)† 1.04

*Humble Oil & Refining Co. †Shell Petroleum Corp. ‡Texas Co. §Continental Oil Co. ‖Magnolia Petroleum Co. ¶Pure Oil Co. **Gulf Refining Co.

Black Bayou, etc., starts at below 20 degrees at 79 cents; 20-20.9, 81 cents; 21-21.9, 83 cents, then a 3-cent spread to 26-26.9 degrees, 98 cents, and 27 degrees and over $1. Abbeville starts at below 36 degrees, 92 cents, 2-cent spread to 40 degrees and over at $1.02. Gueydan, etc., starts at below 20 degrees, 79 cents, 3-cent spread to 26-26.9 degrees at $1, and 2-cent spread to 40 degrees and over at $1.28. Segno and Wing take Gulf Refining Co.'s Gulf Coast prices. Vinton, Edgerly, etc., schedule starts at below 18 gravity, 76 cents, 2-cent spread to 20-20.9 at 82 cents; then a 3-cent spread to 26-26.9 at $1; then a 2-cent spread to 34 degrees and over at $1.16.

North Louisiana and Arkansas

Smackover, Ark. (Oct. 5, 1938)* ..... $ .73
Buckner, Magnolia, and Village, Ark. (Oct. 5, 1938)* ..... See note below
Schuler, Jones sand ..... See note below
Tullos and Urania ..... .89
Cotton Valley, La. (distillate) (Dec. 23, 1938)* 1.20
Lisbon, La. (Sept. 19, 1938) ..... See note below

*Smackover posted by Standard Oil Co. of Louisiana, October 5, 1938; by Magnolia Petroleum Co., October 12; by Gulf Refining Co., October 13; McMillan Refining Co. and Cross Refining Co. met price. Tullos and Urania posted by Hunt Oil Co. and Arkansas Fuel Oil Co.

Schuler Jones sand schedule starts at below 25 degrees, 66 cents, with 2-cent spread to 40 and over at 98 cents; by Lion Oil Refining Co. on October 5, 1938; Schuler light Morgan sand crude takes North Louisiana gravity scale along with El Dorado and Champagnolle; by Lion Oil Refining Co., October 5; Buckner, Magnolia, and Village schedules posted by Standard Oil Co. of Louisiana and Lion Oil Refining Co. on October 5; quote same prices as for Schuler Jones sand crude.

Middle Western States

OHIO OIL CO.
(Effective October 13, 1938)

Lima, Ohio ..... $ .90
Illinois old fields 1.05
Illinois basin 1.15
Princeton, Ind. 1.05
Western Kentucky 1.10
Greendale, Porter, and Crystal, Mich. (Jan. 6, 1939)* ..... .92½
Buckeye, Bentley, Edenville, Beaverton, Mich. (Jan. 6, 1939)* ..... .90
Freeman-Redding, Mich, (Jan. 6, 1939)* ..... .82
West Branch and Arenac, Mich. (Dec. 13, 1938)* ..... .70
Allegan (Jan. 6) ..... .78
Bloomingdale (Dec. 19) ..... .84
Muskegon 1.00
Sherman, Mich. (Dec. 13, 1938)‡ ..... .82
Eastern Kentucky:
Big Sandy River† 1.12
Kentucky River† 1.20

*Simrall Corp. †Ashland Refining Co. ‡Pure Transportation Co.

Rocky Mountain States

Dry Creek, Wyo. (Oct. 11, 1938)* ..... $ .92
Elk Basin, Wyo. (Oct. 11, 1938)*† ..... .90
Grass Creek, light, Wyo. (Oct. 11, 1938)*† ..... .90
Grass Creek, heavy (Oct. 11, 1938)† ..... .40
Lance Creek, Wyo. (Oct. 11, 1938)* ..... .77
Rock Creek, Wyo. (Oct. 11, 1938)* 1.00
Iles, light, Colo. (Oct. 11, 1938)† ..... .98
Iles, heavy, Colo. (Oct. 11, 1938)† ..... .92
Dutton Creek, Wyo. (Oct. 11, 1938)† ..... See note below
Frannie, light, Wyo. (Oct. 11, 1938)† ..... .55
Frannie, heavy, Wyo. (Oct. 11, 1938)† ..... .42
Hamilton dome, Wyo. (Oct. 11, 1938)† ..... .35
Midway, Wyo. (Oct. 11, 1938)† ..... See note below
Salt Creek Tensleep crude, Wyo. (Oct. 11, 1938)† ..... .646
Salt Creek (Oct. 11, 1938) ..... See note below
Canon City, Colo. (Oct. 11, 1938)‡ ..... .90
Florence, Colo. (Oct. 11, 1938)‡ ..... .90
Cat Creek, Mont. (Oct. 11, 1938)‡ 1.10
Big Muddy, Wyo. (Oct. 11, 1938)‡ ..... .98
Lance Creek, Wyo. (Oct. 11, 1938)‡ ..... .77
Lea County, N. M. ..... See West Texas gravity schedule‡
Artesia, Jackson and Maljamar ..... See gravity table‡
Fort Collins and Wellington, Colo. ..... See gravity table‡
Eddy County, N. M. (October 11, 1938)¶ ..... .77

*Ohio Oil Co. †Stanolind Oil & Gas Co. ‡Continental Oil Co. ¶Sinclair Prairie Oil Marketing Co.

Dutton Creek and Salt Creek Tensleep crude start at below 29 degrees, 86 cents, 2 cents spread to 40 and over at $1.10. Salt Creek crude excepting Tensleep, takes Standard Oil Co. of Indiana Oklahoma-Kansas prices. Stanolind Oil & Gas Co., effective October 11, discontinued posting prices in Greybull-Torchlight, Wyo., and Hogback and Hospah, N. M.

Eastern States

SOUTH PENN OIL CO.
(Effective February 1, 1939)

Pennsylvania Grade Oil in National Transit Lines (Bradford field) $1.88
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.53
Pennsylvania Grade Oil in Eureka Pipe Line lines 1.47
Pennsylvania Grade Oil in Buckeye Pipe Line lines 1.45
Corning Grade Oil in Buckeye Pipe Line Co. line (Jan. 24) 1.02

TIDE WATER ASSOCIATED OIL CO. and NEW YORK TRANSIT CO.
(Effective February 1, 1939)

Bradford, Pa. $1.88
Allegany, N. Y. 1.88

PENNZOIL CO.

Group A $1.83
Group B 1.82
Group C 1.81
Group D 1.80
Group E 1.78

PURE OIL CO.
(Effective February 1, 1939)

West Virginia $1.47

West Texas

See gravity table.
Pecos County (Oct. 11, 1938)* ..... $ .78
Pecos shallow (Oct. 11, 1938)† ..... .65

*Shell Petroleum Corp., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Canada

Ontario (Oct. 25, 1938)*

Petrolia $1.90
Oil Springs 1.97

TURNER VALLEY
(January 5, 1938, by Imperial Oil, Ltd.)

Clear naphtha and discolored naphtha, 65 gravity and higher $2.14
Discolored naphtha and crude oil, 40-40.9 gravity 1.14
Increasing 2 cents for each degree gravity with top price for 64-64.9 gravity 1.62
These prices f.o.b. producers field tank age.

*Imperial Oil, Ltd.

Crude Oil Price Changes

The Continental Oil Co. lowered its prices in the Abbeville, Louisiana, pool 9 cents per barrel on all grades from below 36 to 40 degrees and over, making them effective January 1, 1939. The new schedule starts at below 36 degrees 92 cents, and adds 2 cents for each degree up to and including 40 and above at $1.02.

South Penn Oil Co. raised the price of Corning, Ohio, crude 5 cents per barrel to a new price of $1.02, effective January 24, 1939.

South Penn Oil Co. February 1 increased the price of Bradford and Allegany crude 8 cents; Southwest Pennsylvania and Eureka, 10 cents; Buckeye, 15 cents. Pennzoil and Pure Oil increased their prices 10 cents in fields where they post prices.

New York Market

(Continued from Page 95)

was a factor in bolstering the bright stock market. Most Pennsylvania refiners are asking 6 cents per gallon for 65-octane motor fuel and 6½ cents for 70-octane gasoline. Movement in the tankcar market has been modest during the past 10 days in keeping with the weather conditions. Costs of crude oil are of greater weight in keeping the market at present levels than demand.

Low-octane gasoline on the Gulf Coast was reported slightly weaker with some producers said to be entertaining firm bids of 4⅜ cents per gallon and in a few instances a shade below that figure. The better grades of motor fuel, however, are withstanding the slack demand and most refiners are in position to ride out the winter without resorting to price cutting for relief. Stocks are in reasonably satisfactory position although anxiety is expressed in several quarters over the current runs to stills and the uninterrupted movement of Illinois crude at concession prices.

Test Jenner Structure

The Jenner structure, on the Red Deer River, in Alberta, Canada, will be tested by two wells to be drilled by the M-S-M Syndicate. L. A. Snyder of Calgary is managing director, and contract has been let to T. Boyd Kyle.

Crude Prices by Gravities

	1 Oklahoma	2 Oklahoma and Kansas	3 North and Central Texas	4 Louisiana and Arkansas	5 East Central Texas	6 Gray County, Texas	7 Hutchinson and Carson counties, Texas	8 Raccoon Bend, Satsuma and Tomball, Texas	9 West Texas and Lea County, N. M.	10 Fort Collins and Wellington, Colo.	11 Anahuac and Dickinson, Texas	12 Refugio, Texas	13 Mirando and Duval Texas	14 Gulf Coast Texas	15 Cass and Panola counties, Texas	16 Beaumont and West Beaumont, Texas	17 Lockport, Iowa, Cameron Meadows, Louisiana	18 Artesia, Jackson, and Maljamar, N. M.	19 Iowa, Louisiana
Below 18	....	....	....	....	....	....	....	....	$.53	....	$.74	$.79	$.74	$.79	....	....	$.74	....	$.75
18-18.9	....	....	....	....	....	....	....	....	.53	....	.74	.79	.74	.79	....	$.79	.78	....	.79
19-19.9	....	....	....	....	....	....	....	....	.55	....	.77	.82	.77	.82	....	.82	.80	....	.81
20-20.9	$.60	$.70	....	....	....	....	....	....	.57	....	.80	.85	.80	.85	....	.85	.82	....	.83
21-21.9	.63	.72	....	....	....	....	....	....	.59	....	.83	.88	.83	.88	....	.88	.85	....	.86
22-22.9	.66	.74	....	....	....	....	....	$.95	.61	....	.86	.91	.86	.91	....	.91	.88	....	.89
23-23.9	.69	.76	....	....	$.78	....	....	.97	.63	....	.89	.94	.89	.94	....	.94	.91	....	.92
24-24.9	.72	.78	$.71	....	.80	....	....	.99	.65	....	.92	.97	.92	.97	$.73	.97	.94	....	.95
Below 25	....	....	....	$.73	....	....	....	1.01	.67	....	.95	1.00	.95	1.00	.77	1.00	.97	....	.98
25-25.9	.75	.80	.73	.75	.82	....	....	1.03	.67	....	.95	1.00	.95	1.00	.77	1.00	.97	....	.98
26-26.9	.78	.82	.75	.77	.84	....	....	1.05	.69	....	.97	1.02	.97	1.02	.79	1.02	.99	....	1.00
27-27.9	.81	.84	.77	.79	.86	....	....	1.07	.71	$.81	.99	1.04	.99	1.04	.81	1.04	1.01	$.61	1.02
28-28.9	.84	.86	.79	.81	.88	$.72	$.67	1.09	.73	.83	1.01	1.06	1.01	1.06	.83	1.06	1.03	.63	1.04
29-29.9	.87	.88	.81	.83	.90	.74	.69	1.11	.75	.85	1.03	1.08	1.03	1.08	.85	1.08	1.05	.65	1.06
Below 30	....	....	....	....	....	....	....	1.13	.77	.87	1.05	1.10	1.05	1.10	.87	1.10	1.07	.67	1.08
30-30.9	.90	.90	.83	.85	.92	.76	.71	1.15	.79	.89	1.07	1.12	1.07	1.12	.89	1.12	1.09	.69	1.10
31-31.9	.92	.92	.85	.87	.94	.78	.73	1.17	.81	.91	1.09	1.14	1.09	1.14	.91	1.14	1.11	.71	1.12
32-32.9	.94	.94	.87	.89	.96	.80	.75	1.19	.83	.93	1.11	1.16	1.11	1.16	.93	1.16	1.13	.73	1.14
33-33.9	.96	.96	.89	.91	.98	.82	.77	1.21	.85	.95	1.13	1.18	1.13	1.18	.95	1.18	....	.75	....
34-34.9	.98	.98	.91	.93	1.00	.84	.79	1.23	.87	.97	1.15	1.20	1.15	1.20	.97	1.20	....	.77	....
Below 35	....	....	....	....	....	....	....	1.25	.89	.99	1.17	1.22	1.17	1.22	.99	1.22	....	.79	....
35-35.9	1.00	1.00	.93	.95	1.02	.86	.81	1.27	.91	1.01	1.19	1.24	1.19	1.24	1.01	1.24	....	.81	....
36-36.9	1.02	1.02	.95	.97	1.04	.88	.83	1.29	.93	1.03	1.21	1.26	1.21	1.26	1.03	1.26	....	.83	....
37-37.9	1.04	1.04	.97	.99	1.06	.90	.85	1.31	.95	1.05	1.23	1.28	1.23	1.28	1.05	1.28	....	.85	....
38-38.9	1.06	1.06	.99	1.01	1.08	.92	.87												
39-39.9	1.08	1.08	1.01	1.03	1.10	.94	.89												
40 and over	1.10	1.10	1.03	1.05	1.12	.96	.91												

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1938-39 High	1938-39 Low	Week ending Jan. 28 High	Week ending Jan. 28 Low	Week ending Jan. 28 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1937	Com. sh. earn. 1936	1937 High	1937 Low	1936 High	1936 Low
78	55	66½	61	62¾	Amerada Corp.	788,675	N.P.	50cQ	10-31-38	$2.00	$3.04	$2.52	114⅞	51½	125½	75
27⅜	17¾	22½	21⅜	21½	Atlantic Refining	2,663,999	$25	25cQ	12-15-38	1.00	3.51	2.59	37	18	35½	26⅝
23¾	12⅛	18⅝	15⅝	15⅝	Barber Asphalt Co.	390,223	$10	75c	12-16-37	....	1.91	1.14	43⅜	10⅛	38½	21
21⅜	10⅛	17	15½	16¼	Barnsdall Oil Co.	2,250,344	$5	25cQ	2-1-39	1.00	0.85	1.01	35¼	10	28¼	14⅛
10¾	7	8⅝	8	8⅛	Consolidated Oil Corp.	13,915,167	N.P.	20cQ	2-15-39	.80	1.48	1.18	17⅞	7	17¼	11½
35¾	21¼	27⅞	26½	27	Continental Oil of Delaware	4,682,583	$5	25cQ	3-31-39	‖1.00	2.98	2.05	49	24	44⅞	28⅛
9¾	5	7¼	6¾	6¾	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	0.94	—0.03	17⅝	4¾	13⅞	6⅝
22⅝	12¼	15⅛	13⅝	14½	Mid-Continent Petroleum	1,857,912	$10	35c	12-1-38	.60	2.86	2.57	35⅝	14	30⅞	17¼
17¾	10⅝	13¾	13	13	Mission Corporation	1,382,945	$10	$1	6-29-38	1.00	1.31	0.48	34	15	29⅞	16¾
23	11⅝	13⅝	11⅝	12¼	National Supply	1,155,170	$10	$2 pf.‡	12-22-37	....	4.90	2.02	41⅜	17⅝	75½	19⅞
14⅞	8¾	9½	8⅝	8¾	Ohio Oil Co.	6,563,377	N.P.	20c	12-15-38	.20	1.30	0.70	22⅞	8	18	12⅛
15⅞	10¼	10½	10⅜	10⅜	Pacific Western Oil	1,000,000	N.P.	50c	12-20-38	.50	1.39	1.58	29⅜	11¾	23½	11⅜
9¼	6¼	6½	6¼	6¼	Pan American Pet. & Trans.	4,702,945	$5	$1*	12-21-37	....	1.18	0.52	17⅛	7	20⅝	12¼
44⅜	27¼	39¾	37⅛	38½	Phillips Petroleum	4,449,052	N.P.	50cQ	3-1-39	‖2.00	5.42	4.02	64	30⅛	52⅜	33⅛
25⅝	15	21½	20¼	20¼	Plymouth Oil Co.	1,029,800	$5	35cQ	12-12-38	1.40	2.85	1.65	29⅞	13	27¾	11⅞
13½	8¼	9⅞	8¾	9	Pure Oil Co.	3,285,120	N.P.	25c	12-1-37	....	2.15	1.63	24⅜	8¾	27⅞	16
10¼	5	9⅝	8⅝	8⅝	Richfield Oil Corp.	3,896,638	N.P.	50c	12-21-38	.50	0.35	...	6½	4⅛	..	
27½	15½	21½	19	19⅝	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	12-15-38	1.00	1.97	2.00	54⅛	16	44	30½
18⅜	10	13½	11¾	12½	Shell Union Oil	13,070,625	N.P.	35c	12-20-38	.70	1.44	1.57	34¾	14⅞	28¼	14¾
34¾	18½	23⅞	21	23	Skelly Oil	1,003,949	$15	50c	12-15-38	1.00	6.07	4.42	60⅝	26½	47⅜	19½
16⅜	10¾	13	12	12⅜	Socony-Vacuum	31,151,071	$15	25c	9-15-38	.50	1.82	1.38	23¼	13	17½	12½
34⅞	25⅛	27¾	26¾	27⅛	Standard Oil of California	13,014,754	N.P.	35cQ†	12-15-38	1.40	3.17	1.79	50	27⅛	47⅝	35
35½	24¾	28	26⅛	26⅞	Standard Oil (Indiana)	15,267,030	$25	25cQ	3-15-39	1.00	3.66	3.09	50	26½	48½	32¾
50⅜	32½	..	..	..	Standard Oil of Kansas	112,837	$10	$2	12-8-38	2.00	6.93	1.91	43	30⅝	31	25
58⅝	39¾	50	47¼	49⅛	Standard Oil of New Jersey	26,224,767	$25	50c§	12-15-38	§1.50	5.64	3.73	76	42	70⅜	51⅛
66	45	60	55	55	Sun Oil	2,316,484	N.P.	25cQ	3-15-39	1.00	3.86	3.25	77½	44½	91	70
4¼	1¾	3	2⅝	2⅝	Superior Oil Corp.	1,388,079	$1	....	....	....	0.32	0.14	7¾	1½	6¾	3
49⅝	32⅝	44⅝	42¼	43	Texas Corp.	10,875,006	$25	50cQ	1-5-39	2.00	5.02	4.10	65½	34¾	55¼	28⅞
5⅞	2⅝	5	4⅝	4¾	Texas Gulf Producing Co.	888,140	N.P.	15c	12-15-38	.15	0.68	0.93	9⅝	2	8⅞	4⅝
12½	7	9¼	8¼	8⅝	Texas Pacific Coal & Oil	888,140	$10	10c	3-1-39	.40	1.11	0.72	16⅝	5⅜	15¼	7½
15¾	10⅛	13	12¼	12¼	Tide Water Associated	6,369,175	$10	25cQ	12-1-38	1.00	2.08	1.03	21⅝	13½	21¾	14¾
22½	17⅛	19	18¼	18¼	Union Oil of California	4,666,270	$25	30cQ	2-10-39	1.20	2.58	1.40	28¼	17½	28½	20⅝
23⅝	20	21½	21	21	Union Tank Car Co.	1,200,000	N.P.	30cQ	12-1-38	1.30	1.70	1.76	31½	22	31⅝	22⅝
3⅝	1⅝	3⅜	3	3	Wilcox Oil & Gas	506,522	$5	....	5-10-28	....	0.24	—0.06	6¼	1⅜	5¼	2⅜

*Payable in 3½ per cent notes. †Includes extras. ‡One-tenth share $2 preferred stock. §Also 1½ per cent stock dividend. ‖Also right to subscribe to bonds.

New York Curb Exchange

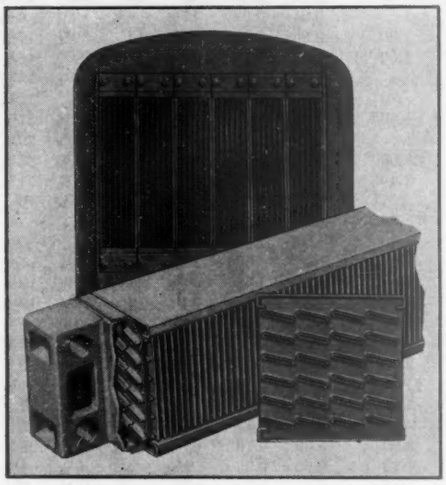
1938-39 High	1938-39 Low	Week ending Jan. 28 High	Week ending Jan. 28 Low	Week ending Jan. 28 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1937	Com. sh. earn. 1936	1937 High	1937 Low	1936 High	1936 Low
11¾	5	8	7⅜	7¾	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.10	$0.27	$0.28	10	6⅝	..	
10¼	4⅞	6⅛	5⅜	5½	Bridgeport Machine Co.	260,000	N.P.	$1.25	12-30-37	....	1.90	1.26	21⅜	7	21	13½
39	22½	29	27¼	29	Buckeye Pipe Line Co.	200,000	$50	50c	3-15-39	2.00	4.02	4.40	51½	36	50	39¾
130	97	126	121½	121½	Chesebrough Mfg. Co.	120,000	$25	$2Q†	12-19-38	6.50	6.73	7.46	12	95½	124¾	105
11⅝	5½	7½	6⅝	6⅝	Cities Service (new)	3,714,317	$10	....	6-1-32	....	1.02	0.13	5⅜	1½	7⅜	3
2⅜	⅞	1	1	1	Cosden Petroleum	462,551	$1	....	.....	....	0.19	...	5½	1½	4½	1½
27½	17½	22¾	21⅝	21⅝	Creole Petroleum	6,975,383	$5	50cSA†	12-15-38	1.00	1.61	1.23	38¾	20¼	39	19⅞
10¼	5½	6⅝	6½	6½	Darby Petroleum	351,390	$5	25cSA	1-15-39	.50	1.36	1.26	18⅝	6½	18⅛	9
3½	1½	1⅞	1¾	1¾	Derby Oil & Refining	263,162	N.P.	....	.....	....	1.34	0.66	8⅜	2¼	6¾	1⅞
31	17⅛	..	..	..	Eureka Pipe Line	50,000	$50	50c	2-1-39	3.00	—0.12	—0.62	47½	24½	47½	38½
46⅞	33	38½	36	38	Gulf Oil Corp.	9,076,202	$25	25cQ	12-15-38	1.00	3.51	2.90	63½	33	59	36
72⅝	56	66½	65	66	Humble Oil & Refining	8,987,840	N.P.	62½c	12-27-38	3.00	5.22	3.80	87	54⅞	80	57
19½	14⅛	16¼	16	16	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	12-1-38	1.25	0.98	0.95	24¼	14½	24½	19¾
9⅜	6	..	..	..	Indiana Pipe Line	300,000	$10	20c	11-15-38	.50	1.03	1.00	15	5⅞	9¾	5½
31¼	21	26¼	24¾	25	International Petroleum	14,324,088	N.P.	$1.25†‡	12-1-38	2.50	...	1.81	39½	23½	39⅝	32⅝
5	2⅛	2¾	2¾	2¾	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	.10	0.17	0.20	8¾	2⅜	5¾	2⅝
25⅛	15⅝	18⅝	17½	18	Lion Oil Refining	434,820	N.P.	25cQ	12-15-38	1.00	2.17	1.43	34	12½	17⅝	7⅜
10⅜	6⅝	9	8⅝	8¾	Lone Star Gas	5,553,747	N.P.	20c	12-22-38	.60	1.14	1.02	14¼	5¼	14¼	9⅞
9⅜	6½	7	6¾	6⅞	Louisiana Land & Exp.	2,977,449	N.P.	5c spl.	12-23-38	.45	0.58	0.64	15¼	6¾	15⅝	9⅞
9¾	6⅜	8¼	8⅛	8⅛	Midwest Oil Co.	998,444	$10	50c	12-15-38	1.00	1.14	0.95	14⅝	6¼	..	..
5¾	4½	5	4⅞	5	Mountain Producers	1,593,584	$10	30cSA	12-15-38	.60	0.76	0.62	7⅞	4⅛	8⅜	5
14⅝	11½	13	12¾	12¾	National Fuel Gas	3,810,183	N.P.	25cQ	1-16-39	1.00	0.96	1.19	19½	12	23	17⅝
9¼	6½	7⅝	7¼	7¼	National Transit	509,000	$12.50	40c	12-15-38	.75	1.19	0.79	12½	7¼	15⅜	9¼
2⅝	1½	1¾	1¾	1¾	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	0.02	0.02	5	1⅛	6⅝	1⅝
4½	3½	4¼	4¼	4¼	New York Transit	100,000	$5	15c	10-15-38	.25	0.49	0.34	5⅜	3⅞	6¼	4¼
6	4	5	5	5	Northern Pipe Line	120,000	$10	15c	12-1-38	.35	0.78	0.66	12¾	5¾	9¾	4⅞
7¾	5½	6½	5½	6	Pantepec Oil	2,441,142	$1	....	.....	....	...	0.05	9⅝	2⅜	10½	3¼
4½	1⅝	2¼	2	2¼	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	—0.17	0.45	12⅜	2	19¼	4½
4	2⅛	2½	2⅜	2⅜	Ryan Consolidated	296,931	N.P.	....	.....	....	0.46	...	6½	2¼	4⅜	1⅞
5⅜	3¼	3⅝	3½	3½	Southern Pipe Line	100,000	$10	15cSA	9-1-38	.30	0.85	0.41	7¼	3⅞	7⅞	3¼
39	28¾	33¾	32	32	South Penn Oil	1,000,000	$25	37½cQ	12-24-38	1.75	4.64	3.59	56	35	44	32½
22¼	17	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50cQ	12-28-38	2.00	0.95	0.97	42	20	60	44
18¾	15	18¼	17¾	18¼	Standard Oil of Kentucky	2,604,790	$10	50cQ†	12-15-38	1.25	1.60	1.46	21⅛	14¾	23⅜	17⅛
8¾	5½	6½	6½	6½	Standard Oil of Nebraska	166,403	$25	25c	3-29-37	....	—0.58	0.42	13¾	8	14⅝	11
22¾	16¼	21	19½	19¾	Standard Oil of Ohio	753,740	$25	25c	12-15-38	1.00	3.67	4.77	45	16	40	21¾
3¼	2	2⅛	2	2	Sunray Oil	2,006,176	$1	10c	12-24-37	.05	0.42	0.26	4⅞	2	5	2⅝
5¼	3½	3⅝	3½	3½	Texon Oil & Land	936,024	$2	15cQ	9-30-38	.60	0.51	0.36	7⅝	2	9¾	5⅝
7⅝	4¼	3	2¾	2¾	Transwestern Oil Co.	750,000	$10	....	.....	....	0.48	0.06	13⅞	4⅝	..	..
5¼	2⅝	3	2¾	2¾	United Gas Corp.	7,818,959	$1	....	.....	....	0.25	0.20	13⅞	3	10¾	4

†Includes extras. ‡Payable in Canadian funds. §Of which $1 was in preferred stock.

New or Improved Equipment

Sectional Radiator Is Improved by Young Rigid Side Member

Young Radiator Co., Racine, Wis., is introducing a rigid side member for sectional radiators which is said to represent an outstanding improvement in core section construction. It obviates the necessity for using shim pads or other devices to prevent vibration. Also it facilitates speedy replacement in case of damage and ease in assembly. Young integrally fitted die-formed sides are standard equipment on all sectional cores and radiators or intercoolers manufactured by the company.



The following advantages of this new type of construction are enumerated by the company: (*a*) Heavy-duty steel double U one-piece side plates. (*b*) Formed channels on both sides. These channels not only reinforce the side members and eliminate vibration, but add strength and long life to the core section. (*c*) The channels form a smooth, attractive finish at the exposed edges of the core section. (*d*) Each core is processed on the four exposed corners so that the channel slides on, fitting integrally. The double channel becomes an actual part of the core embedded in the fin surface. It makes a positive contact with each fin, taking the place of soldering the plate on the fin sides.

Bulletins, Booklets, and Other Literature for the Trade

The Four Wheel Drive Auto Co., Clintonville, Wis., has ready for distribution its handbook for 1939 giving truck and trailer size and weight restrictions. The company has compiled the road laws in similar form since 1933. The 52-page booklet is offered free to any truck operator or any official interested in road laws.

"Forging Ahead With Forgings" is the title of a 34-page booklet offered by the Steel Improvement & Forge Co., 960 Addison Road, Cleveland, Ohio. "Manufacturers of every type of equipment," says the booklet, "are simplifying cost and design problems, metallurgical and production difficulties, and increasing sales through use of forgings."

McKenna Metals Co., 173 Lloyd Avenue, Latrobe, Pa., manufacturer of "Kennametal" tools and blanks for steel and metal cutting, has issued a 24-page catalog available to all plant operating and purchasing officials.

Worthington deep-well turbine pumps, Types QE and QAE, designed for economical water supply, are the subject of a bulletin mailed on request by Worthington Pump & Machinery Corp., Harrison, N. J.

A 20-page Hytempite catalog, containing illustrations of installations, is available from Quigley Co., Inc., 56 West Forty-fifth Street, New York. Hytempite is a plastic, air-setting, high-temperature cement for bonding firebrick and shapes with thin, strong, air- and gas-tight joints; building monolithic "gas-tite" baffles; and for quick hot or cold furnace repairs.

Featuring several new tools used in oil-well drilling, Shull Perforating Co., 2750 Cherry Avenue, Long Beach, Calif., has released a bulletin presenting various types of perforation-cleaners, sand-pumps, scavenger tools, collar-locators, mud-pump valve-grinders, wire-line guides, swabs and slips.

Two new bulletins are announced by General Electric Co., Schenectady, N. Y.: GEA-2964, describing a full-voltage magnetic motor-starter, and GEA-2872, answering questions about metal-enclosed switchgear.

Executive Changes Announced

Changes in the executive personnel of the wire department, United States Rubber Co., are announced by C. W. Higbee, manager of wire sales. M. P. Lewis, former eastern district manager of wire sales, has been appointed assistant manager of the wire sales department, with headquarters at the company's main office, 1790 Broadway, New York. Mr. Lewis joined the company in 1919 at the Bristol, R. I., wire factory, where he was employed for two years in the sales and service departments. In 1921 he went to the New York sales office and handled important industrial accounts. Two years ago he was placed in charge of sales of the eastern district.

M. P. LEWIS

H. H. Weber, assistant manager of the wire sales department since 1934, has been appointed commercial engineer of that department. Previously, he was in the engineering divisions of the Rome Wire Co. and the General Cable Corp.

Succeeding Mr. Lewis as manager of wire sales in the eastern district will be H. J. MacDonald, whose field embraces the Boston, Philadelphia, New York, Pittsburgh, Detroit, Cleveland, Buffalo, and Syracuse branches. He has handled wire sales in New England for the past 18 years and will continue his headquarters at the Boston office.

Appointed to the post formerly held by Mr. MacDonald is C. W. Short, for the past two years development manager at the Bristol plant. He was graduated from Rhode Island State College in 1916, with a degree of bachelor of science in chemical engineering.

Alignascope Tests Verticality of Sections of Drilling String

A device for testing the straightness of any section of the drilling string has been introduced by the National Supply Co. This instrument, the Ideal Alignascope, is said to be particularly effective in providing a quick check on the alignment of any section. Since most drilling string failures have been caused by misalignment in some part of the string, this instrument should prove a definite aid in reducing this type of failure.

The Alignascope consists essentially of a telescope and a set of four targets. The telescope is mounted on a saddle, held firmly on one end of the section to be surveyed, and a reading is taken on the targets which are firmly strapped 90 degrees apart on the other end of the section. The degree of deviation from the norm is quickly discernible.

With this Alignascope the regular drilling crew can survey sections of the drilling string suspended in the derrick—either when running in the hole or coming out. The crew can check the straightness of each stand as a whole, also individual lengths of pipe, drill-collars and drill-stems. Complete information is contained in Bulletin No. 205.

Lufkin Announces Changes

Lufkin Foundry & Machine Co., Lufkin, Tex., has made the following changes in its sales organization: A. B. Bennett, formerly in charge of East Texas, has succeeded C. B. Edwards, who resigned, and will be located in Houston as manager of the Gulf Coast territory. Mr. Edwards goes to Lufkin as comptroller of the Southern Paper Mill, Inc. Don Kerr, in East Texas as field man for several years, will be district manager of the East Texas area. C. S. Hardin, formerly at Talco, is transferred to the district office in Salem, Ill. Harold Blodgett, formerly in Wichita Falls, will also be in Salem. Elvin Read, formerly in Kilgore, Tex., is now in charge of the warehouse at Effingham, Ill.

Heavy-Duty Oil-Field Winch Is Designed for Severe Use

Supplementing its line of oil-field winches, Willamette Hyster Co. announces a new Hyster D7 and Hyster D8 heavy-duty worm-drive towing-

winch for service in the oil fields. In line with the policy of building winches for "Caterpillar" track-type tractors exclusively, the new winches are designed to match the power and size of the "Caterpillar" D7 and D8 tractors.

These rear-mounted, worm-driven winches are designed for towing service which requires primarily a very low line speed for spotting of equipment under close control. The design and features of both models are practically identical. The worm gear is self-locking, acting as an automatic brake in holding suspended loads. A power reverse speed is provided for lowering such loads against the gear. A sliding jaw clutch is provided to make the drum free-spooling, to facilitate removing the cable. An external contracting band-brake is provided to control the drum while free-spooling.

The winch, operated from the tractor seat by means of controls conveniently located, has two speeds overwinding and two reverse speeds for lowering loads against the self-locking worm gear. Speed changes are made by means of a sliding dental-type cluch in constant mesh transmission. Drive sprockets may be interchanged for higher speed range and wider service, such as towing trucks, etc.

The winch is mounted directly on rear of tractor transmission case without adapters. Tie-plates bolted to the frame of the winch run the full length of the tractor fenders, making the winch an integral part of the tractor. The winch does not interfere with the swinging drawbar of the tractor, and the drawbar-pin can be removed even when the winch-drum is full of cable. All transmission shafts turn in antifriction bearings. The worm turns in Timken bearings and the drum-shaft turns in heavy bronze bushings.

A steel-plate "headache guard" protects the driver in the event of line breakage. Parts are fully standardized and interchangeable and carried in stock by "Caterpillar" distributors. Complete information may be obtained by writing to Willamette Hyster Co., Portland, Ore., and Peoria, Ill., or to any "Caterpillar" distributor.

Diamond Chain Stocks Installed

Master stocks of Diamond roller chains and sprockets are now available for the southern Illinois oil fields at the Salem, Ill., stores of the Buda Engine Service, with additional stocks in the field stores of most of the oil field supply companies and machinery manufacturers. During the past year stock-carrying distributors have been established by the Diamond Chain & Manufacturing Co. in Brazil, Sociedade Mechanica para Industria e Lavoura Ltd., Somil, Rio De Janeiro; Peru, Compania Mercantil Tecnica, Custer & Thommen, S.A., Lima; Chile, Flaten, Royem, Anker & Cia. Ltda., Santiago; Bolivia, Maestranza y Fundicion, "Volcan," La Paz; Colombia, Sorep, S.A., Bogota; Argentina, Cia. Importadora Maquinas y Accessorios para Industria, Buenos Aires; Egypt, Tractor & Engineering Co., S.A.E., Cairo (Incorporating Mosseri, Curiel & Co.); India, C. Doctor & Co., Ahmedabad; Ceylon, Brown & Co., Ltd., Colombo; South Africa, the Union Engineering Supply Co., Ltd., Durban; W. D. Hearn & Co. (Pty), Ltd., Cape Town; the Denver Machinery Co., Ltd., Johannesburg; and Morris & Martin, Ltd., Port Elizabeth.

Here and There With Men Who Manufacture Equipment

Ray B. Hoover has been elected president of Shafer Bearing Corp., 35 East Wacker Drive, Chicago, manufacturer of roller bearings. Mr. Hoover was formerly vice president and general manager.

E. H. Ross, Mid-Continent representative for the Dragon Manufacturing Co., Marietta, Ohio, left recently on a two month' business trip through Texas, Louisiana, Arkansas, and New Mexico.

J. H. Williams & Co., manufacturer of Superior drop-forgings and drop-forged tools, has moved its New York office from 75 Spring Street to 225 Lafayette Street.

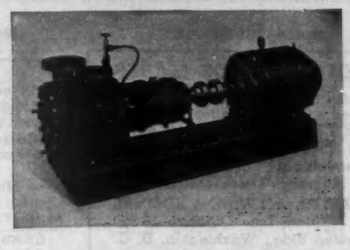
Le Bus Rotary Tool Works, Longview, Tex, has opened its Salem, Ill., store with J. T. Burney as district manager.

St. Hill Off on Eastern Trip

T. N. St. Hill, president of Petroleum Rectifying Co. of California, left Los Angeles recently to spend a week at the company's Gulf Coast headquarters in Houston, Tex. Before returning to his office he planned to spend some time in New York and other eastern cities on company business.

Worthington Introducing New Pump for Refinery Service

Among recent developments for oil refinery service is the Type H saddle-mounted centrifugal pump for handling hot and volatile liquids, intro-



duced by Worthington Pump & Machinery Corp., Harrison, N. J. Of the vertically split case design, the new unit incorporates ingenious departures from conventional methods, thoroughly tested and approved, to assure superior performance and long life in severe service.

Supported at its center line under pipe connections by a saddle-type mounting, the pump is held rigidly in place, preventing misalignment. Pipe connections are easily accessible. Cantilever shaft construction prevents shaft deflection in the stuffing-box and a modern standardized bearing unit has positive oil lubrication. Vaporization in the suction is eliminated by a reservoir suction head, which permits easy access to the impeller without disturbing pipe connections. The self-venting volute casing eliminates vapor binding in the unit.

The new pump is available in several standardized material combinations for lube-oil plants, distillation and cracking units, stabilizers and hot and cold service. A high degree of standardization gives maximum interchangeability.

Scrapes Paraffin From Tubing

The Axelson guide-type paraffin-scraper coupling made by Axelson Manufacturing Co., Los Angeles, Calif., is for use in wells troubled with paraffin deposits in the tubing. The design permits the coupling to be hooked on the rod string without interfering with normal operations. Spiral flutes form a continuous bearing surface and permit sufficient fluid passage. Paraffin is expelled by the turbulent action set up by the spiral flutes. A scraper coupling installed at every fifth joint on the rod string is recommended by the manufacturer.

HERE ARE THE JENSENS AND THEIR NEW WACO N PLANE

This is the third airplane owned by Jensen Brothers Manufacturing Co., Coffeyville, Kans. The two brothers, K. R. (Ray) Jensen (left) and W. G. Jensen, got their first plane, a Waco custom cabin, in 1937. It was replaced by a Stinson early in 1938. Now they have this Waco N, a five-passenger ship equipped with a 300-horsepower Jacobs engine and an R.C.A. radio compass. The new orange and gray plane is already a familiar sight in the oil-producing states which the brothers visit in connection with their business of manufacturing oil- and water-well pumping equipment.

CLASSIFIED ADVERTISING

Patent Attorneys

PATENTS — TRADE MARKS

All cases submitted given personal attention.

Form **"Evidence of Conception"** with instructions for use and **"Schedule of Government and Attorneys' Fees—FREE**

LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
418 Bowen Bldg., Washington, D. C.

JACK A. SCHLEY
PATENT LAWYER

Patents obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas. 2014 Second Nat'l. Bank Bldg., Houston. 707 Insurance Building, San Antonio. 433 Munsey Building, Washington, D. C. Address any of these offices.

Leases and Drilling Blocks

LEASES—East Texas, La., South Ark. 40 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark

DRILLING deals wanted 50,000 acres Southern Illinois in and around production area. Elmer Gant, Anna, Illinois.

ILLINOIS 60,000 acres in and near production. Illinois Minerals Company, Cairo, Illinois.

SACRIFICE 40-acre Oil Lease, Chaves County, for only $10.00, full price. Guarantee title P. O. Box 191. Clovis, N. Mex

320 ACRES, Crane Co., Tex., Magnolia lease, cheap in fee. Address 415 Littlefield Building, Austin, Texas.

OIL and Gas Lease For Sale. My one-half interest in 204 A. Sec. 4N. 6W. Grady Co., Okla. Also, 240 A. Sec. 14 and 15, 2N. 4W. Stephens Co., Okla. E. E. McDowell, Verden, Oklahoma.

5 ACRE Mineral Deed, Landowners Royalty under entire 80 acres of land leased to Gulf Oil Co. being N½ NW¼ sec. 30, twp. 14s, rge. 31e, full price only $32.50. Perpetual and full participating. Send your check. Guarantee delivery. P. O. Box 968, Hobbs, N. Mex.

OWNERS offer subject to prior sale oil and gas lease on 480 acres sections 11, 12, 13, 14 Limestone County survey Montague County, Texas five or ten year term at $5.00 per acre eight miles southeast Gant production. G. A. W. c/o First National Bank, Saint Jo, Texas.

WILL LEASE S.E. 21 or sell royalty N.W. Sec. 10 both Edmond Twp. 429 S. Broadway, Edmond, Oklahoma.

FOR SALE: 50-Section Eastern New Mexico Ranch. Oil possibilities. Robert Gray, O'Dell Hotel, Hot Springs, N. M.

WILL GIVE solid 600 acre block leases Breckenridge County, Kentucky for test well 1,250 feet deep or McClosky sand if productive anticipated at lesser depth. Address Owner. GUY J. STUMPFF, Box 1657, Fort Worth, Texas.

OIL LEASES FOR SALE—30,000 acres scattered in 7 oil producing counties of Illinois. Sell cheap in blocks of not less than 1,000 acres. Address C. Leonard Snell, Mark Twain Hotel, St. Louis, Missouri.

WILL GIVE genuine psychic maps showing drilling sites. MONTGOMERY COUNTY, MISSISSIPPI to operator who will drill. Texas operators leasing near Kilmichael, Miss. Ideal shore line structure found, 4 oil sands less than 3,500 feet. No proration. Box 303, Memphis, Tenn.

RELIABLE driller financially strong will take blocks for immediate drilling. Prefer Illinois. Might add cash. Address Box J-853, The Oil and Gas Journal, Tulsa, Okla.

We Can Turn Your Oil Deal
We like the big ones best. Save commissions. Send no information. Just your name and address to: THE BROKER, 906 Tulsa Loan Building, Tulsa, Oklahoma.

Leases and Drilling Blocks

NEW MEXICO
State Oil and Gas Leases
Forty acres and multiples thereof at $6.00 to $30.00 per forty in the Hot Spots. Buy where the major companies own leases. Write for list. Twenty years in the business and not a complaint.
HARRY S. WRIGHT
New Mexico State Lessee, P. O. Box 166 Council Bluffs, Iowa, or P. O. Box 347, Santa Fe. N. M.

LEASES—ROYALTIES near Ordovician and Woodbine-Trinity sand wildcats. Quick plays for 50 to 1 chances. E. CROFT, PROCTOR, TEXAS.

OIL & GAS
Central Continent Territory
PERCY E. A. CONVERSE
Pawnee Rock (Barton County), Kansas.

I WILL find the buyer, you furnish the lease or acreage. A successful Chicago business man (gentile) will now take agency to market lease or acreage in shallow field of New Mexico or Texas on any reasonable basis. Please communicate with

E. A. TALMAN
4076 W. 26th St.
CHICAGO, ILLINOIS.

WANTED—Tex., La., Okla., Ark. producing or wildcat royalties, leases, from owners or brokers. Give full details, price. American Investment Co., Houston, Texas.

OWNER thousand acres of E. Okla. productive coal oil gas land; $15 fee, half cash, bal. in royalty, or $5 per a. lease or royalty. J. E. Cavanagh, Baker, Oregon.

PARTY now conducting special geophysical exploration surveys for oil promise is often in contact with drilling block opportunities, leases, production, royalties and sometimes capital for development where favorable conditions exist P. O. Box 364, Fort Worth, Texas.

Situations Wanted

ACCOUNTANT and Tax man holding C.P.A. degree, desires position, preferably with oil company in Tulsa. Now engaged in public practice. 20 yrs. experience. Reliable refs. furnished. Address Box J-791. The Oil and Gas Journal, Tulsa, Okla.

GRAD. PETROLEUM Engineer 16 yrs.' experience as Drilling and Production Superintendent, repressuring, gas lift and transportation. Both cable tool and rotary drilling. Able, efficient and economic operation. Best of references including present employer. Address Box J-833, The Oil and Gas Journal, Tulsa, Oklahoma.

Situations Wanted

DESIRE connection with company or individual developing oil property, operation or installation of natural gas plant as employee or partner. Graduate engineer, 20 years' operating experience, 4 years with state service Comm. Address Box J-832, The Oil and Gas Journal, Tulsa, Okla.

JOB wanted. Experienced production and work-over man. Thoroughly familiar Gulf Coast. Now employed, good reason for changing. Age 35. Address Box J-842, The Oil and Gas Journal, Tulsa, Okla.

REFINERY Supervisor and Chemist. Technically trained and experienced in atmospheric pressure, combination lubes, wax, treating, chemical and experimental. Management experience. Can furnish reliable references including present employer. Address Box J-852, The Oil and Gas Journal, Tulsa, Oklahoma.

LUBRICATING technical sales or service opening sought by qualified graduate chemist. Ten years refining, some sales experience, consultant, patents, major and independent oil companies. Good record, appearance, and personality. Available immediately—33—married. Present location Michigan. Address Box J-850, The Oil and Gas Journal, Tulsa, Oklahoma.

SALESMAN — Sales executive now employed desires connection with production equipment manufacturer or distributor. Age 35. Twelve years pumping equipment sales. College education. Clean record. Address Box J-851, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

CRACKING plant foreman also development and process engineer. Must be experienced and have good technical training. State fully experience, education, age. Address Box J-841, The Oil and Gas Journal, Tulsa, Oklahoma.

Mailing Lists

ROYALTY Lists. Unit Owners Lists. Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa Oklahoma.

Financing

CAPITAL SEEKERS—Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theatre Building, Detroit, Michigan.

CORPORATE FINANCING
Inquiries solicited from corporations requiring capital for expansion or other corporate purposes.
BROWN HARTWELL COMPANY
110 East 42nd Street, New York, N. Y.

CLASSIFIED ADVERTISING RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.25	$3.30	*7 Lines*	$2.45	$4.20	$5.95	$7.70
4 Lines	1.40	2.40	3.40	4.40	*8 Lines*	2.80	4.80	6.80	8.80
5 Lines	1.75	3.00	4.25	5.50	*9 Lines*	3.15	5.40	7.65	9.90
6 Lines	2.10	3.60	5.10	6.60	*10 Lines*	3.50	6.00	8.50	11.00

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Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
TULSA, OKLA.

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

Producing and Non-Producing
OIL ROYALTIES
Registered Dealers Only.
GRIMES ROYALTY CO.
Hunt Bldg. Tulsa, Okla.

PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
703 Kennedy Bldg., Tulsa, Okla.

ROYALTIES PURCHASING TRUST, LTD., Moorgate Hall, Moorgate London E. C. 2., England, are buyers of producing oil royalties.

Survey Service

OIL FINDING DOWSING METHOD
My deductions a practical method which picks up vibratory reactions emanating from carbo-hydrates. Physico method finds oil, locates faults. Same method discovered great East Texas field also our Watson #2 first producer Wilmington, Calif. field. Employ a man that owns producing wells I find oil if it exists or no charge. George Miller. 1548 Post. Torrance. California

Legal Blanks

SINCE 1908 Burkhart's legal forms—serving Mid-Cont. oil fields, including Ill., La. Mo. Ind. & Ky. Free catalog & samples. Burkhart Ptg. & Sta. Co., 115 So. Cinn., Tulsa, Okla.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

IF YOU buy or sell royalties, leases or production, DON'T FAIL to check each item listed in these classified columns. They comprise the best medium of exchange available to you.
Classified Department

Drilling Contractors

NORTHWEST Missouri—We have light, modern, all-steel, truck mounted spudders for shallow information holes to marker limes in Forest City basin. Drillers familiar with formations. Office close to area. Also have spudders for deep wildcat holes. References. J. D. Judd & Son, Martin City, Mo. 6 miles south of Kansas City on Holmes St. Phone Dwight 3273.

Business Opportunities

OFFER undivided one-half interest in fully geologized and approved Rooks County, Kansas structure. Cost of this interest with well contracted to 3,600 ft., $22,000. Write H. C. Petersen, Rt. 2, Berthoud, Colo.

PARTNER WANTED — To invest $25,000 in ⅛ interest in Illinois oil acreage. Address C. Leonard Snell, Mark Twain Hotel, St. Louis, Missouri.

CLASSIFIED ADVERTISING

For Sale—Equipment **For Sale—Equipment** **For Sale—Equipment**

PRESSURE VESSELS

We have recently purchased several pressure vessels, that would make excellent reaction chambers, any type tower or for pressure storage.

We also have SEVEN, 6'x28'x¼" riveted and welded vessels for gasoline storage.

PIPE—STEEL STORAGE TANKS—VALVES and FITTINGS
REFINERY EQUIPMENT

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry or H. J. Galamba,
Riverview at Second, Kansas City, Kansas

Robt. W. Duden,
2100 S. Union, Tulsa, Oklahoma

FOR SALE
HEAVY STEAM ROTARY RIG

Including 3 125-250 Oil Well Boilers feed pumps, 3-KW generator, gas regulator, burners, stacks complete. 1—7¾x18 Wheland Power Pump driven by 14x12 Sgle. Cyl. R. B. Steam engine on skids. 1 A-3500 8" R. B. Unitized 4 speed Jack shaft Lucey draw works, new, and 12x12 Gumbo twin engine. 1—27" Lucey rotary table; 1 new Reagan Crown; 1—66" U.T.R.B. traveling block; new 10" Ideal hook, 1 E-6000 Lucey swivel; Steel tool house, and fittings for rigging up. Complete rig less drill pipe. $18,000.00 cash, at location. Also 5,000' 6⅝" extra good drill pipe 25.20#, 85c ft.

SEIBOLDT DRILLING CO.
Box 847, Cushing, Okla.
Telephone 1221, Cushing, or
2-1598 at Wichita Falls, Tex.

CLIMAX R-6-U—125 H. P. Engine, new pistons, rebored, Young Transmission—$1700.00. Butane $150 extra. Address 620 W. Second St., Tulsa, Okla.

FOR SALE at Oklahoma City: 1—13x14 Ajax enclosed type drilling engine, not roller bearing, Babbitted bearings with outboard bearing. I. T. I. O. Co.

14 FOOT band wheel power—25 H. P. Superior Engine—22 x 60 ft. bldg. 1600 ft. 8¼—24-28-lb. casing. Box 759, Ada, Oklahoma.

FOR SALE at Bartlesville: 1—2A National Drilling Machine, I. T. I. O., Bartlesville, Oklahoma.

TRACTORS
Government crawler type Caterpillars, 5 ton $375, 10 ton $695. Slightly used. Perfect condition.

O. C. EVANS
Mt. Sterling, Ky

BUDA MOTOR
90 H.P. Like new, only $275.
R. D. JAMESON, La Cygne, Kansas.

FOR SALE

DRILLING RIG—10" Emsco Drawworks, Two 125 x 350 F. & T. boilers, 6200 Ft. 4½" drill pipe, 12 x 12 Gardner-Denver engine and other equipment to complete rig. Invoiced new over $75,000.00. Above rig drilled only four wells, three at Rodessa, one at Schuler. If interested contact

G. N. PARKER
Phone 2-4336 Box 1322
SHREVEPORT, LA.

FOR SALE at Oklahoma City: 9⅝-in. OD 8 thread 40-lb. second hand API C seamless steel casing range 2. I. T. I. O. Company.

ROTARY Rig Complete — New drawworks with new 125 H. P. Hercules Engine.—5 x 12 Wilson Snyder Pump—New 125 H. P. Engine—A real bargain. Box 99, Seminole, Oklahoma.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G Buyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest cheapest, more liberal. Free forms Colonial Charter Co., Wilmington, Del.

FOR SALE—1 Model KS-6-DHK Card well Oilwell servicing winch unit, mounted on Mack Truck. Can be inspected O.C garage. Operating condition now. I.T.I.O. Bartlesville, Oklahoma.

FOR SALE—Used Refinery Equipment including complete 1000 bbl. Skimming Plant, all size horizontal and vertical tanks of 15,000 bbl. capacity and less. Steam and power pumps, boilers, compressors, valves and fittings. Western Tank & Road Supply Co., Wichita, Kansas.

FOR SALE: At our Oklahoma City Warehouse Model D48 Muskogee Iron Works long line well servicing unit powered by HXE Hercules engines mounted on No. 55 truck. I.T.I.O., Bartlesville Oklahoma

FOR quick sale #30 Star Rig Boiler, tools etc. Price $1000.00. Located Mule Creek district Wyoming. WANTED 3500 foot rotary equipment same location. Address G. M. KYLE, Park Ridge, Illinois.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO
26 West 2nd St. Cincinnati, Ohio

Equipment Wanted

WANTED—Used Hot Oil Pump
60 U. S. Gals. per min. to handle oil at 650° F. and against 800 lbs. per square inch pressure. Diesel or electric motor drive, 3-phase, 220 volt, 60 cycle A. C. With or without Diesel or motor.

Also Potentiometers, flow and temperature recorders and controllers, pressure recorders. Send prices and full particulars to

Northern Engineering Co.
510—9th Avenue East
CALGARY, ALBERTA, CANADA

Addresses Wanted

MR. C. E. BLACKMAN
you may get in touch with
MRS. SARAH MANLEY
at Flatonia, Texas.

For Sale

BENTONITE FOR SALE
Large deposit high grade bentonite located on main line C.B.&Q. R. R. Weston County, Wyoming type material, used as Rotary oil and gas well drilling mud, as a bonding and revival agent in foundry sands, meets all requirements for the newly discovered indestructible paper known as alsifilm.
ADDRESS: L. F. Fletcher, Box 155
Moorcroft, Wyo.

USED OIL FIELD EQUIPMENT

Bargains in all types equipment are listed here under "FOR SALE—EQUIPMENT". Check carefully each item listed under this heading, you may find just the pieces you need at the right price.

If you can't find what you want, then let the oil world know it. Place your need under "Equipment Wanted". These columns are constantly watched by alert contractors, drillers—oil men throughout the country, that is the secret of our 30 years success with classified advertising.

Make a habit of glancing down these columns when you pick up your issue—it will result in nice savings whether you buy or sell used equipment.

The Oil and Gas Journal
Classified Department

Public Notice

IN THE DISTRICT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF ILLINOIS

In the Matter of Power Oil & Refining Co. Inc., a Debtor | In Bankruptcy No. 7647

NOTICE OF SALE OF OIL REFINING PLANT AND INCIDENTAL PROPERTY

* * *

PUBLIC NOTICE IS HEREBY GIVEN that pursuant to the order of the U. S. District Court for the Eastern District of Illinois, I, Vol E. Richardson, Trustee, the undersigned, will offer for sale certain property of the Power Oil & Refining Co. Inc., debtor, consisting of a refining plant and the land on which it is located in the City of Centralia, Marion County, Illinois, together with the pipe line gathering system of the refinery and machinery and equipment and office equipment, all used in the business as formerly conducted by the debtor, at the plant office of said Power Oil & Refining Co. Inc., at Centralia, Illinois, on Thursday the 9th day of February, 1939, at 10 o'clock A. M.

A complete list and a full description of the property to be offered for sale may be examined or had from the Trustee at his office at the plant, where the property may be inspected daily.

Sealed bids for the property will be received by the Trustee at his office up until 9 o'clock A. M. on February 9, 1939. These bids will be opened at the hour of the sale and made known. The Trustee will then immediately receive other and higher bids. All bids must be accompanied by cash, bank draft or cashier's check in amount equal to one-third of the amount bid.

All bids will be received subject to the approval of the court. If the court deems any bid sufficient and orders a sale confirmed thereon the purchaser will be required to pay the Trustee the balance of the purchase price above the amount submitted with his bid within five days after the date of the confirmation order upon delivery to him of instruments of conveyance. The property will be conveyed subject to general and special taxes for 1938 and subsequent, but free and clear of all liens and encumbrances attached by or as the result of the operation of the business of the debtor.

Objections to the Trustee's report of sale or to confirmation of any sale by the court will be heard and determined by the Federal Court in East St. Louis on the 14th day of February, 1939 at 10 oclock A. M.

Inquiries may be addressed to the Trustee at his office, care of Power Oil & Refining Co. Inc., Centralia, Illinois.

Dated this 21st day of January, 1939.
VOL E. RICHARDSON,
Trustee in Bankruptcy.

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